

NAVAL HISTORY AND HERITAGE COMMAND

EDUCATING THE BLUEJACKETS


U.S. NAVY ENLISTED POLICY 1940-2024

Foreword by
16th Master Chief Petty Officer of the Navy James M. Honea



TYLER A. PITROF

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FOREWORD

America's all-volunteer military depends upon the recruitment, training, and retention of talented candidates. These efforts are supported by five policy pillars: adequate pay and compensation, adequate housing, access to quality medical care, a retirement plan, and that the military continue to be an adequate reflection of the American people. Since 1973, this approach has been reasonably effective in spurring enlistment. But recruiting and retention alone are not enough. Talented volunteers must be turned into effective warfighters, and the key to this process is advanced education. Since the 1970s, the Navy has generally considered its educational programs to be an incentive to enlist. In the present day, sophisticated shipboard technology, like the Aegis Combat System, has dramatically increased the need for both highly technical and abstract thinking from all hands, rendering an advanced education critical to warfighting readiness and effectiveness.

Enlisted education and professional military education programs have long been siloed—many programs overlap with and do not consider the function of others. Historically, the result has been an eclectic collection of advanced qualifications within the service and few mandatory requirements. While a reorganization of the current service education system is ongoing, the purpose of this process is therefore larger than mere streamlining: it is a way for the Navy to have standard degree expectations for its Sailors. The recent creation of the United States Naval Community College offers a primary avenue for achieving this goal.

In the following pages, historian Tyler Pitrof of the Naval History and Heritage Command traces the evolution of the U.S. Navy's approach to enlisted education from World War II to the present day. In doing so, he argues that the service has begun to significantly alter its approach to education over the past five years in recognition of the increasing responsibilities that advanced technology places upon the individual Sailor. Fighting a ship in the information age requires split-second decisions and high technical

competence from the entire crew. Leaders cannot be everywhere at once nor have time to gain the deep knowledge of systems required to improvise solutions to complex problems. Individual Sailors must therefore now also be capable decision-makers in their own right.

But Sailors are not machines. In this uncertain era of renewed great power competition, the path to success for our Navy lies with doubling down on delivering the quality of service that Sailors and their families deserve as well as establishing an expectation of lifelong learning. This is the hard-won lesson of the last 80 years of enlisted policy.

James M. Honea

16th Master Chief Petty Officer of the Navy

ABBREVIATION LIST

ADCOP	Associate Degree Completion Program
AVF	All-Volunteer Force
BuPers	Bureau of Naval Personnel
CIC	Combat Information Center
CLO	Chief Learning Officer
CNO	Chief of Naval Operations
DDG	Guided Missile Destroyer
DOD	Department of Defense
E4S	Education for Seapower
FY	Fiscal Year
GWOT	Global War on Terrorism
IA	Individual Augmentee
LCS	Littoral Combat Ship
MCPON	Master Chief Petty Officer of the Navy
NROTC	Naval Reserve Officer Training Corps
NCFA	Navy Campus for Achievement
NCP	Navy College Program
NDS	National Defense Strategy

NCPACE	Navy College Program for Afloat College Education
NTDS	Naval Tactical Data System
PACE	Program for Afloat College Education
PME	Professional Military Education
SEA	Senior Enlisted Academy
STEM	Science, Technology, Engineering, and Mathematics
TA	Tuition Assistance
USMC	U.S. Marine Corps
USN	U.S. Navy
USNCC	U.S. Naval Community College
VEAP	Veterans Educational Assistance Program
VOLED	Navy Voluntary Education

INTRODUCTION

“We are most lethal when we are trained and educated.”

—Sergeant Major of the Marine Corps Troy E. Black¹

Contemporary decisions regarding enlisted policy, particularly recruitment, retention, welfare, education, and training, are often made without reference to historical examples because no concise history of past efforts exists.² This book begins to remedy that deficiency for sailor development and education. In 2024, the U.S. Naval Community College (USNCC) asked the Naval History and Heritage Command (NHHC) to produce a succinct history of U.S. Navy enlisted education policy from 1940 to the present so that its personnel can use the cumulative wisdom of the past to help inform their policies that address the service’s current needs. This resulting work finds that Navy enlisted education—an area largely ignored by the service prior to 1973—has become increasingly critical for sailor retention and war-fighting effectiveness thanks to a combination of changing post–high school educational expectations in the civilian world and the rapid advancement of technology that devolves more shipboard decision-making processes upon increasingly junior sailors.

While USNCC itself focuses on the education of enlisted sailors and marines, understanding that history requires reference to the overall administrative and social context of the armed services. To keep things manageable, and because little has previously been written on the subject,

1 Alexander Gamble, “Congress Establishes USNCC; Grants Conditional Degree-Granting Authority,” Defense Visual Information Distribution Service, 8 February 2022, <https://www.dvidshub.net/news/414286/congress-establishes-usncc-grants-conditional-degree-granting-authority>.

2 Donald Chisholm, “Naval Personnel Since 1945: Areas for Historical Research,” in *Needs and Opportunities in the Modern History of the U.S. Navy*, ed. Michael J. Crawford (Naval History and Heritage Command, 2018), 105–7.

this book focuses specifically on the Navy, although some of the programs that are described in the following pages also applied to the Marine Corps. The Navy often saw enlisted education as one subsystem within the much larger system of enlisted policy. Past shortcomings in Navy personnel policy, such as inadequate basic welfare during the 1960s that contributed to ship-board unrest and single-digit reenlistment rates, not only hold insights for leaders today but also influenced subsequent policy decisions in other areas.³ Various leadership approaches in the past have much to tell about how the Navy dealt with perennial manpower shortages and the need to place more ready players on the field amid deep changes in the service and society. This work is therefore structured as a history of enlisted education policy and framed by the narrative of broader enlisted policy since World War II; it provides a concise history but also charts the path for future research.

WHY STUDY THE ENLISTED?

While historians of the Navy generally understand the early decades of the twentieth century, the same cannot be said for what happened after World War II. The Navy's enlisted force underwent several waves of demographic change between 1900 and today: the service expanded rapidly during World War I and World War II before assuming a state of permanent war readiness throughout a half century of combat and near-combat missions forward during the Cold War. In the course of these events, the old pre-World War II volunteer force was transformed by the institutionalization of conscription between 1948 and 1953, a reversion to the all-volunteer force (AVF) in 1973, and a post-Cold War "doing more with less" mentality that began in 1991 and persists to the present day. Policies optimized for a volunteer force of largely single men in the 1930s did not necessarily work as well with a hybrid volunteer-conscript force in the early Cold War, and the same was true for an integrated, multiracial force of career family men and women after 1973.⁴ Navy policy, therefore, had to change to not only meet the requirements of

3 Thomas C. Hone and Curtis A. Utz, *History of the Office of the Chief of Naval Operations, 1915-2015* (Naval History and Heritage Command, 2020), 292-93.

4 During the era of the draft, the Navy rarely inducted recruits directly, instead accepting large numbers of volunteers who preferred naval service to being drafted into the other branches. Due to this fact, this study refers to shadow conscripts, as the universal draft drove enlistment but the Navy itself typically did not directly conscript anyone.

the organization but also account for broader societal factors that influenced the pool of potential recruits. These broader factors shaped both recruitment and the retention and development of enlisted sailors.⁵

As the individuals who physically operate and maintain warships, enlisted sailors significantly outnumber officers in the U.S. Navy (at the time of writing, the ratio is approximately 4.9 to 1).⁶ Until the last few decades, officers have had exclusive control of policy, advancement, and disciplinary processes for the enlisted, primarily under the auspices of the Bureau of Naval Personnel or BuPers (known as the Bureau of Navigation prior to 1942 and today often referred to as Navy Personnel Command). Despite this state of affairs and declared specializations, most officers are generalists who regularly rotate through very different jobs in the pursuit of the broad knowledge considered necessary to eventually command a ship. In contrast, the enlisted tend to focus on a single job (indicated by their rating) for the duration of their naval career.⁷ Officers are therefore akin to managers in the civilian world, with the enlisted expected to possess narrow but deep knowledge about their specific tasks; as one old Navy saying has it, “Officers run the Navy, but the enlisted make the Navy run.” In recent decades, the demands of increasingly advanced technology and a perennial scarcity of manpower mean that the majority of enlisted careers remain focused on a specific area of expertise, although the number of sailors rotating through assignments has increased. The result is the continuation of a long tradition in the Navy: that of enlisted sailors effectively helping train junior officers in their initial rotations by conveying their own hard-earned knowledge. Properly training, educating, and then *retaining* veteran enlisted personnel is therefore now more critical than ever to the readiness, efficiency, and overall functioning of the modern Navy.⁸

5 Chisholm, “Naval Personnel Since 1945,” 107–10.

6 “U.S. Navy Personnel Strength, 1775 to Present,” Naval History and Heritage Command, last modified 27 July 2020, <https://www.history.navy.mil/research/library/online-reading-room/title-list-alphabetically/u/usn-personnel-strength.html>.

7 Mark R. Hagerott, “Commanding Men and Machines: Admiralship, Technology, and Ideology in the 20th Century U.S. Navy” (PhD diss., University of Maryland, 2008), 1–27.

8 Chisholm, “Naval Personnel Since 1945,” 102–5.

One of the challenges the Navy has faced in determining how much expertise its sailors need lies with defining the terms of the discussion; the service has almost interchangeably used the terms *training* and *education* until only recently. For the purposes of this study, *training* refers to the teaching of specific technical or functional skills directly required to do a particular job. Training usually lasts for a shorter duration (a number of weeks) and results in a certificate or credential that establishes technical competency. *Education*, on the other hand, refers to the broader systematic conveyance of knowledge, which may be practical or abstract but doesn't necessarily relate to a sailor's job. The educational process usually takes months to years to complete and results in the award of a diploma or degree based upon criteria established by outside bodies. *Professional military education* (PME) is a blend of a specific subset of education with specific military training intended to make the individual a better career officer or sailor, takes weeks to months, and concludes with the award of a diploma,



A chief petty officer questioning a class under instruction at Bainbridge Naval Training School, 1943. (Naval History and Heritage Command [NHHC], 80-G-159787)

degree, or certificate in an area of study directly related to the military sciences.⁹ PME also usually leans toward practical rather than abstract thinking.

Despite the long-obvious importance of developing technically proficient enlisted sailors, the Navy has historically been inconsistent about retention, slow to expand enlisted welfare and education programs, and hesitant to enrich training and PME. Before the institution of the all-volunteer force in 1973, Navy leadership provided little educational opportunity to enlisted sailors; after its establishment, leadership saw education as an important incentive for reenlistment. Amid the digital revolution and concomitant rapid technological change, Navy leadership realized that postprimary education could create significant warfighting advantages: a broad-based education would result in an enlisted force with skills more broadly applicable than the highly specialized knowledge imparted by training. While leadership identified the benefits of education—particularly with regard to the digital revolution—in the late 1990s and early 2000s, budgetary restrictions resulting from a high tempo of active operations prevented a lasting response to these developments, with persistent shortfalls in advanced officer programs absorbing what little funds were available. Today, following the 2020 *Education for Seapower Strategy* and establishment of the USNCC, the Navy has responded by inverting its earlier thinking, seeing education firstly as a foundation for warfighters and secondarily as an incentive to retain those skilled personnel. This process has gone hand in hand with a renewed commitment to PME intended to help prepare the service for high-intensity combat with a peer competitor, particularly for mid- and late-career enlisted personnel at institutions such as the Senior Enlisted Academy (SEA).¹⁰

The evolution of enlisted education has not been a clean process, but rather one in which several overlapping groups, policies, and programs shaped and reshaped how Navy leadership perceived their service's needs.

9 While these definitions are the author's own due to various changes in the official interpretations of these terms over the years, they are drawn from those currently accepted by the Department of Defense. "Enlisted Professional Military Education Policy (EPMEP), November 2021," Joint Chiefs of Staff, accessed 15 November 2024, <https://www.jcs.mil/Doctrine/Joint-Education/>.

10 Chisholm, "Naval Personnel Since 1945," 102–5, 110–12.

The growing education and technical literacy of recruits—some of whom were illiterate during World War II but in the present day are identified as high-aptitude high school graduates—also influenced the service’s actions. As a result, this study considers five specific topics to make sense of these trends. First, it analyzes the Navy’s personnel structure and explains why the service chose that specific form. Second, it considers who enlisted and what influenced their decision to join the Navy. Third, this work identifies why (or why not) enlisted personnel remained in the Navy after their first term. Fourth, it discusses the training and education of enlisted personnel, as well as how changes in the roles and responsibilities of enlisted sailors drove shifts in education and vice versa. Finally, the overall work assesses how the answers to the above questions changed over time, especially after the transition to the all-volunteer force in 1973. In general, this approach means that every chapter is effectively broken down into three parts. Each begins with a broad narrative of the period in question that serves to establish the context of problems the Navy needed to address, usually but not always, in the areas of recruiting and retention. The middle section then looks at the service’s major changes to the enlisted force and enlisted policy outside of education and training in response to this problem set. The final section of each chapter analyzes the major alterations to enlisted education, the motivations for them, and how they fit into the Navy’s overall needs and policy.

OFFICERS AND ENLISTED

Military personnel in any service are typically divided between officers and enlisted—in the modern day, essentially managers and the managed—with crossovers between the two usually being rare. Exceptions to this general structure, in the form of highly specialized warrant officers (higher ranking than the enlisted, but lower than all commissioned officers) and former enlisted personnel who choose to enter the officer ranks through advanced training partway through their careers (usually referred to as “mustangs”), are also critical to the functioning of the Navy but not the focus of this study. They will be mentioned where relevant, but by necessity of space, their history will have to be left to future publications.

Since 1845, the U.S. Navy has required officers to possess a college-level education upon commissioning, which was initially obtained solely through

the United States Naval Academy in Annapolis. In the twentieth century, this institution evolved into the equivalent of a four-year college program due in part to the escalating importance of modern science to warship operations. The academy has awarded a bachelor's degree to its graduates since 1933, and has been augmented by the introduction and expansion of Naval Reserve Officer Training Corps (NROTC) detachments at many major universities.¹¹ Upon graduation, midshipmen at the Naval Academy or participating in the NROTC are commissioned directly into either the Marine Corps or the Navy at the lowest officer rank (ensign in the case of the latter), which nevertheless immediately places them into a position of command authority over even the highest-ranking enlisted.¹² Officers usually incur a minimum service obligation on commissioning, but their careers have no fixed duration other than a maximum time in each rank and a mandatory retirement age, though these policies have of course changed over time. Throughout, officers are rotated through different assignments ashore or aboard ship every few years with the intent for their career experience to turn them into well-rounded leaders. Ideally, these postings are interspersed with time ashore dedicated to the pursuit of a more advanced degree from the Naval War College (founded in 1884), Naval Postgraduate School (founded in 1909), or a number of other military or civilian institutions (although overemphasis on seagoing command for career success has long fostered a general ambivalence toward this practice). Those officers that reach flag (or admiral) rank are generally expected to possess an advanced education and rely on their hard-earned technical skills to plan and lead the Navy effectively. While the means by which this

11 An act of Congress first authorized the awarding of a bachelor of science degree to Naval Academy graduates in 1933, but students did not pick unique majors until much later in the twentieth century. Donald Chisholm, *Waiting for Dead Men's Shoes: Origins and Development of the U.S. Navy's Officer Personnel System, 1793–1941* (Stanford University Press, 2002), 5–6.

12 That said, no ensign would dare issue an order to most enlisted, as the majority of enlisted possess vastly more experience and informal authority than they do. Chisholm, *Waiting for Dead Men's Shoes*, 5–6; Tyler Pitrof, *Too Far on a Whim: The Limits of High-Steam Propulsion in the US Navy* (University of Alabama Press, 2024), 83–85, 172–73.

process is executed and the skills that officers are expected to learn have changed in the past century, these trends have remained largely constant.¹³

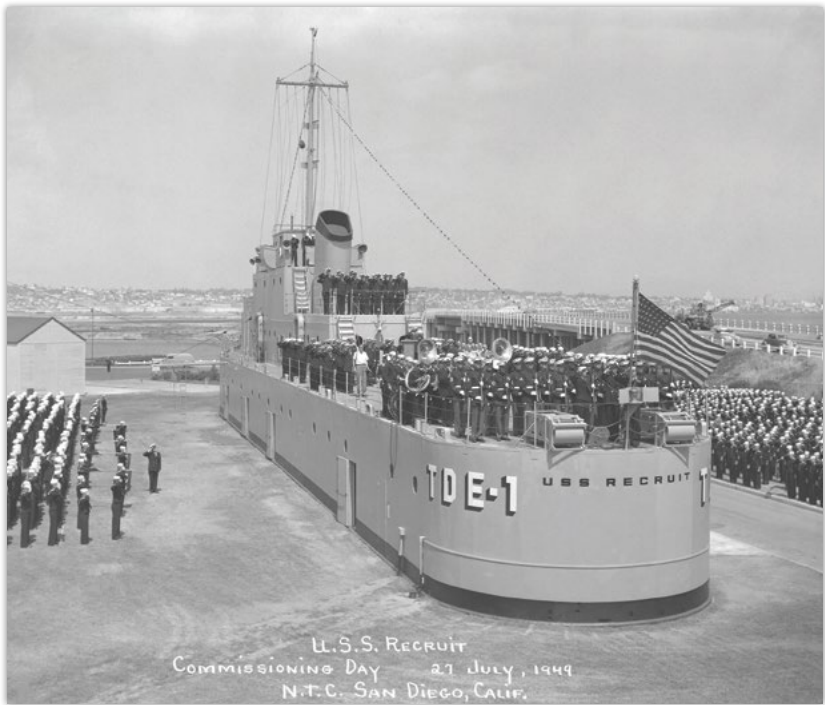
Aside from an ever-evolving need for scientific education throughout the twentieth century, the expectations and treatment of the enlisted stands in stark contrast to that of U.S. Navy officers. The very name for “the managed” group of naval personnel comes from the label for their term of service. That is, these individuals serve an enlistment, initially of four to six years in most cases, and are provided with the opportunity to reenlist or separate from the service at the end of each of these terms.¹⁴ Individuals historically enlisted or reenlisted for a variety of reasons ranging from a desire to see the world or learn a trade skill to the periodic weakness of the civilian economy; accordingly, the background and education of these individuals has always varied widely.¹⁵ In general, the modern Navy seeks to induct high-aptitude high school graduates (a task that has grown increasingly difficult with the rise in desirability of an undergraduate education). Those who volunteer undergo 6–10 weeks of initial training at boot camp, followed in many cases by more specialized training at an “A” school for several weeks or (in a few cases) months. This basic structure is a product of World War II, when the traditional method of learning by doing—that is, having enlistees learn to be sailors simply by sending them to sea with experienced peers—was rapidly overwhelmed by the pace of the fleet’s expansion. As mentioned above, modern enlisted sailors are subject-matter experts within their specific rating or job. They are therefore encouraged and often expected to continue their education throughout their service with the Navy in their area of expertise, as officers must rely on enlisted sailors’ deep knowledge of advanced ship systems—especially within the combat information center (CIC). As these systems evolved throughout the twentieth and twenty-first centuries, so too did the types

13 In particular, the emphasis on technical skills over liberal arts thinking, championed by Admiral Hyman Rickover during the Cold War, has won out and changed the definition of what makes an officer “well-rounded.” Hagerott, “Commanding Men and Machines,” 1–27, 29–33, 190–208.

14 Generally the length of an initial enlistment depends upon the amount of training required for the position in question. “Requirements to Join,” Navy Recruiting Command, accessed 15 November 2024, <https://www.navy.com/joining/requirements>.

15 Chisholm, “Naval Personnel Since 1945,” 108–9.

and numbers of ratings needed in any given warship. In recent decades, the highest enlisted ranks (senior and master chief petty officer, E-8 and E-9) have additionally been trained as managers themselves, creating an important expert aid to the shipboard decision-making process.¹⁶



The commissioning ceremony for *Recruit* (TDE-1), a landlocked two-thirds-scale model of a *Dealy*-class destroyer escort, at Naval Training Center San Diego, 27 July 1949. (National Archives and Records Administration [NARA], 29011262)

THE STRUCTURE OF THIS STUDY

Chapter 1 begins in 1940, picking up where the sole existing study of enlisted policy ends in order to establish the longtime norms of the old volunteer Navy and how these policies were radically upset by the massive

16 “Navy Boot Camp,” Navy Recruiting Command, accessed 15 November 2024, <https://www.navy.com/navy-life/boot-camp>.

expansion of the fleet during World War II.¹⁷ Chapter 2 then examines the period from 1945 to 1973, during which the Selective Service System pushed many young men into the Navy who might not otherwise have volunteered and thereby substantially shifted the composition of the enlisted force. Simultaneously, the introduction of nuclear propulsion dramatically increased the educational requirements for personnel who worked with it, leading to the first lasting implementation of advanced education for certain categories of enlisted personnel and a critical emphasis on reenlistment rates. Chapter 3 details the Navy's realization after the elimination of the draft in 1973 that family support and advanced educational opportunities could become major recruitment and retention tools, which resulted in the Tuition Assistance (TA) and Navy Campus for Achievement (NCFCA) programs in 1974.

These major steps forward in the benefits available to enlisted personnel came under threat with the end of the Cold War in 1991. Chapter 4 describes the major budget cuts and downsizing of the armed forces throughout the 1990s, followed by the high operational tempo of the global war on terrorism (GWOT) in the 2000s. As the demand to “do more with less” remained consistent throughout this period, the growth of remote learning and successes in the expansion of advanced enlisted training, such as the maturation of the Senior Enlisted Academy, were overshadowed by the fact that the reforms of the previous decades were no longer enough to ensure either reenlistment or combat effectiveness. Chapter 5, therefore, analyzes how the pivot of the Navy's attention to the potential for renewed great power conflict in this environment led to the 2018 *Education for Seapower (E4S) Study* and the resulting *Strategy* in 2020 that created the USNCC. This renewed expansion of educational opportunities for enlisted sailors was unique in that it was carried out in the name of combat effectiveness as much as recruitment or retention. With E4S, the Navy recognizes that an advanced education is now critical to all tasks in the service. The rapid pace of technological change has thereby greatly narrowed the gap between officers and the enlisted.

17 Frederick Harrod, *Manning the New Navy: The Development of a Modern Naval Enlisted Force, 1899–1940* (Greenwood Press, 1978).

1

THE OLD VOLUNTEER FORCE AND SELECTIVE SERVICE, 1940–45

Until the early twentieth century, the U.S. Navy was strictly a volunteer force, characterized by the apprenticeship of young men desiring to be officers and the enlistment of experienced mariners from coastal cities in the United States and abroad. Between 1899 and 1945, modernization and two world wars caused significant changes to this long-standing pattern. After a rapid expansion of the fleet at the turn of the century caused a shift to enlisting inexperienced landsmen from the nation's interior, the United States' brief involvement in World War I initiated a dramatic influx of new recruits to man Woodrow Wilson's "Navy second to none." These grand plans, which started in 1916, were abruptly curtailed with the signing of the Washington Naval Treaty in 1922, which set a hard limit on the size and shape of the Navy, leading to a similarly rapid downsizing, then stabilization of the enlisted force. Finally, expansion to a two-ocean Navy in World War II pushed the service to shift from a purely volunteer force to a hybrid volunteer-selective service cadre in late 1942, transforming both the character and needs of those who served. During the war, increasingly sophisticated technology and innovations—such as radar, sonar, and the combat information center—prompted the Navy to reconceptualize the role of the enlisted, leading to the establishment of enlisted training processes and setting the stage for the significant period of social change that was to follow in the early Cold War.

PROLOGUE: THE "NEW" NAVY

For about the first century of its existence, the small U.S. Navy recruited its sailors exclusively from port cities, both American and foreign. What mattered wasn't citizenship or education but simply the ability to carry

out hard labor at sea; the age of sail was a time in which all men aboard a ship needed to be able to carry out a range of simple, manual tasks while the officers handled more intellectually challenging jobs like navigation. This force only required a minimum of attention; no training or education system for the enlisted existed.¹

The advent of steel-clad, steam-powered warships in the 1880s changed this equation. The resulting proliferation of tasks and the specialized training many enlisted jobs now required, combined with the rapid expansion of the fleet following the Spanish-American War (1898), depleted the (small to begin with) available experienced labor in port cities around the world. In the face of this manpower shortage, the U.S. Navy altered its approach to actively recruit inexperienced landsmen from the nation's interior—and for the first time, the service was forced to consider how to train and educate its enlisted force to do its job. This was nothing less than a major paradigm shift that compelled the Navy to build a complete recruitment and training system from scratch.²

The result of this change to recruiting was both the homogenization of the enlisted force into a largely white-only institution (which banned first enlistments by African Americans between 1919 and 1932) and the establishment of boot camp to teach rudimentary skills required of all sailors of the era, regardless of rating.³ The form of initial training was a matter of serious contention throughout the first decade of the twentieth century, with the Navy seesawing between sending raw recruits immediately to sea aboard a dedicated training squadron or training them ashore before sending them to the operational fleet until World War I interrupted the process in 1917.⁴ Additional specialized training continued to depend upon the age-old practice of apprenticeship carried over from the age of sail: fresh recruits were expected to carry out only the most menial of tasks and

1 Chisholm, "Naval Personnel Since 1945," 133–35; Harrod, *Manning the New Navy*, 4–5, 8–23.

2 Chisholm, "Naval Personnel Since 1945," 113–15, 135–36; Harrod, *Manning the New Navy*, 5–7, 34–73.

3 Chisholm, "Naval Personnel Since 1945," 116; Harrod, *Manning the New Navy*, 6–7, 74–96.

4 Harrod, *Manning the New Navy*, 6–7, 75–82.

observe veteran crew members for months or even years before striking for a particular specialty. The Navy at large generally treated the enlisted like children who needed to be minded by their officers during this period, and little thought was given to general education or formal specialized training.⁵

The massive Naval Expansion Act of 1916, along with the United States' entry into World War I as a belligerent in 1917, interrupted the Navy's gradual expansion through volunteers with the first iteration of the Selective Service System. The Navy, which had been composed of about 3,870 officers and 55,120 enlisted personnel in 1916, jumped first to 8,038 officers and 185,143 enlisted the following year before leaping to 31,194 and 495,662 in 1918.⁶ This increase of nearly 900 percent completely overwhelmed the service's existing personnel structure, particularly since no centralized or detailed records of enlisted assignments were kept in that period (ships were essentially manned by body count rather than by any particular sort of specialties).⁷ Making matters worse for the Navy was the fact that the relatively rapid conclusion of hostilities in 1918 was followed by the signing of the Washington Naval Treaty in 1922, which dramatically curtailed the size of the fleet. The need to quickly mobilize, demobilize, and then discharge what had been assumed would be longer-service enlistees to get the Navy down to about 83,000 sailors (led by around 8,000 officers) by the end of fiscal year (FY) 1923 caused nothing short of chaos for the Bureau of Navigation. It also prevented substantial attention to anything other than how many personnel were actually in uniform during that time.⁸

5 The exception to this was Secretary of the Navy Josephus Daniels, who attempted to institute general education courses for all sailors purely for their own betterment. This policy had virtually no supporters outside of Daniels himself and was quickly abandoned after World War I. Harrod, *Manning the New Navy*, 89–94.

6 “U.S. Navy Personnel Strength.”

7 It is also worth mentioning that the enormous and sudden demand for manpower prompted Josephus Daniels to allow women into the Navy in limited roles other than nurses for the duration of the emergency. “Enlisted Personnel Classification and Distribution in World War II,” in “United States Naval Administration in World War II: Bureau of Naval Personnel; Enlisted Personnel,” 142/20, World War II War Diaries, Other Operational Records and Histories, ca. January 1, 1942–ca. June 1, 1946, Records of the Office of the Chief of Naval Operations, Record Group (RG) 38, National Archives at College Park, MD (NACP) [online version available through Archival Research Catalog (NAID 77645269) at www.archives.org; accessed 18 September 2024].

8 “U.S. Navy Personnel Strength.”



As part of a major recruiting effort following the Naval Expansion Act of 1916, the wooden replica battleship *Recruit* served as a Navy recruiting center and training ship in New York City's Union Park from 1917 to 1920. (National Museum of the U.S. Navy, Lot 10944-4)

However, after 1922 the Washington Naval Treaty imposed a maximum size on the Navy that, in conjunction with stringent fiscal and isolationist policies of successive presidential administrations and Congresses between that year and 1935, capped the number of enlisted personnel between 81,000 and 87,000.⁹ Unchanging requirements, combined with the Great Depression that began in 1929, led to astonishingly high reenlistment rates in excess of 90 percent in some years.¹⁰ This increase had several significant effects: the Navy gained the ability to be highly selective with its recruits (and thus remembered the draft of 1917–18 in a very negative light), it accrued a significant amount of expertise in the lower ranks as a stable enlisted population provided few opportunities to move up, and the service also gained a high appreciation of the importance of its longest-serving sail-

9 "U.S. Navy Personnel Strength."

10 "Enlisted Personnel Classification and Distribution in World War II," 137/15.

ors to fleet efficiency. All of these factors had a major influence on how the Navy reacted to the demands of expansion during and after World War II.¹¹

WORLD WAR II RECRUITING AND THE TRAINING PIPELINE

The enlisted personnel system, relatively stable between the world wars, evolved quickly during World War II in the areas of recruiting and training. That period, which featured a rapid pace of technological change, dramatically increased the amount of specialized knowledge enlisted sailors required to effectively carry out their tasks. While the experienced, long-service personnel of the Depression could be relied upon to acquire most of this expertise on the job, the massive influx of untrained recruits during World War II could not. The result was a substantial expansion of shore-based training schools and the proliferation of highly specialized ratings as the Navy raced to get as many trained personnel to the fleet as soon as possible. While the service managed to meet the majority of its needs during the conflict, the postwar period would play host to the rationalization of this thrown-together system and thereby lay the foundation for the training pipeline that the Navy relies upon in the twenty-first century.

The interwar Navy was a purely volunteer force that rarely advertised but by 1939 had 35 major recruiting offices and 259 outposts throughout the country where prospective enlisted sailors could present themselves to join the waiting list. The service had no trouble meeting its personnel quotas throughout this period of high reenlistment, and as a result, became very selective with its recruiting so as to obtain the best force it could.¹² The vast majority of the enlisted were literate white men, although some minorities (including African Americans and Filipinos) were admitted during the interwar period in support (usually mess) roles only after 1932.¹³ By and

11 Harrod, *Manning the New Navy*, 94–97.

12 “Bureau of Naval Personnel Enlisted Personnel Activity, Recruiting and Induction Division,” in “United States Naval Administration in World War II: Bureau of Naval Personnel; Enlisted Personnel,” 15/2–16/3, World War II War Diaries, Other Operational Records and Histories, ca. January 1, 1942–ca. June 1, 1946, Records of the Office of the Chief of Naval Operations, RG 38, NACP online version available through Archival Research Catalog (NAID 77645269) at www.archives.org; accessed 18 September 2024.

13 Chisholm, “Naval Personnel Since 1945,” 116.

large, sailors enlisted for the steady pay and unique opportunity to see the world, and they stayed in large numbers for the same reasons.

Aside from on-the-job, apprenticeship-style training, few opportunities for advancement or personal improvement existed. The Bureau of Navigation created a number of correspondence courses in the form of Navy Training Courses in the aftermath of World War I for both officers and enlisted personnel that required minimal supervision, but these were relatively short and aimed at specifically improving a given sailor's efficiency in a specific task (such as water tending or properly cleaning a boiler). No general educational opportunities were provided for the enlisted, and welfare included only recreational opportunities. While the limited resources expended on correspondence courses certainly increased the value of the enlisted sailor in the eyes of Navy leadership, high retention throughout this period discouraged the service from bothering with what the individual sailor did off duty, so long as he stayed out of trouble.¹⁴

Increased education or training was similarly unnecessary in a world where ample time (and veteran peers) was available aboard every ship to help train the handful of first-time enlistees joining each year. In accordance with this approach to training and crew efficiency, crews were generally considered "permanent" throughout the 1920s and early 1930s—that is, enlisted sailors were permanently assigned to a ship as long as they were fit for sea duty, and did not rotate to other assignments. New ships (on the rare occasion that they were commissioned before 1934) were manned via a levy on the rest of the ships of the fleet without recourse to the preferences of individual sailors.¹⁵ From the perspective of the Navy, these factors created a ready and capable force; sailors in the ranks, however, faced stagnation and little room for advancement. As the Great Depression meant that the enlisted had curtailed opportunities outside of uniform, permanent crews did not appear to have adversely affected retention.

In 1934, the Navy commissioned the first new destroyers built under the auspices of the National Industrial Recovery Act of 1933 and began expanding the number of enlisted personnel for the first time since World

14 Harrod, *Manning the New Navy*, 129–39.

15 Harrod, *Manning the New Navy*, 94–97, 129–39.

War I. As production of ships accelerated later in the 1930s, the existing volunteer system brought enlisted personnel to 110,900 by 1939.¹⁶ In July 1940, the rapid collapse of France inspired fears in Congress that the United States might soon be the only democratic power left standing, leading to the passage of the Two-Ocean Navy (Vinson-Walsh) Act that authorized an increase in the Navy's size by 70 percent. This required a further dramatic expansion of the enlisted to keep pace. Accordingly, paid advertising campaigns tripled the 1939 total of enlisted to 332,300 men in uniform by the end of 1941 and over 1.1 million by the conclusion of the following year.¹⁷ This intake was possible without dramatic changes in recruitment due in part to the persistence of the Depression job market into the early 1940s, which made any job—particularly one in which room and board were included—highly appealing.¹⁸

The massive surge in construction and recruitment additionally broke the logjam in the ranks created by the Washington Naval Treaty and its successors by opening up many opportunities for advancement. The reliance on very brief shore training followed by intense on-the-job learning from experienced peers—effectively throwing recruits into the deep end—required ships to have a high percentage of experienced officers and enlisted personnel to function effectively; up through 1939, 90–95 percent of an average crew in the Navy had multiple enlistments under their belts. As new ships were commissioned with increasing rapidity between 1939 and 1941, petty officer promotions for treaty-era, long-service personnel became a critical tool to facilitate this system. In effect, the prewar junior enlisted became the senior cadre that trained the influx of inexperienced sailors during World War II.¹⁹

While this approach to training worked well until 1939 and managed through 1941, there were ominous signs that change was needed as the

16 "U.S. Navy Personnel Strength."

17 "U.S. Navy Personnel Strength."

18 "Bureau of Naval Personnel Enlisted Personnel Activity, Recruiting and Induction Division," 15/2, 17/4.

19 "Bureau of Naval Personnel Enlisted Personnel Activity, Recruiting and Induction Division," 22/9; "Enlisted Personnel Classification and Distribution in World War II," 127/5–131/9; Chisholm, *Waiting for Dead Men's Shoes*, 760, 766, 775.

existing long-service personnel were spread thin. By the end of 1941, the complement of experienced crew members in an average Navy warship had plummeted to 20 percent or less, making learning on the job a much more dangerous and less efficient process.²⁰ In response, the service began directly recruiting new enlisted personnel for specific specialist jobs rather than entering them as general seamen. Those who had some college education or exemplary records in their brief service were quickly promoted to petty officer. Individuals acquired in this manner required significantly less upfront training and were more immediately useful to the fleet. However, the Navy was not well-equipped for this task; it had operated largely by levy for the entirety of its pre-World War II history and had no established means by which to track the skills of individual sailors or to assign them where they were needed most once they enlisted. The introduction of new technology, such as radar, complicated this process even further, as *all* enlisted sailors assigned to use this equipment had to be trained from scratch. The Bureau of Navigation (which was renamed the Bureau of Naval Personnel in 1942) therefore had little choice but to use any means necessary to find as many skilled or high-aptitude recruits as possible, as the number of enlisted personnel ballooned to over 3 million by 1945.²¹

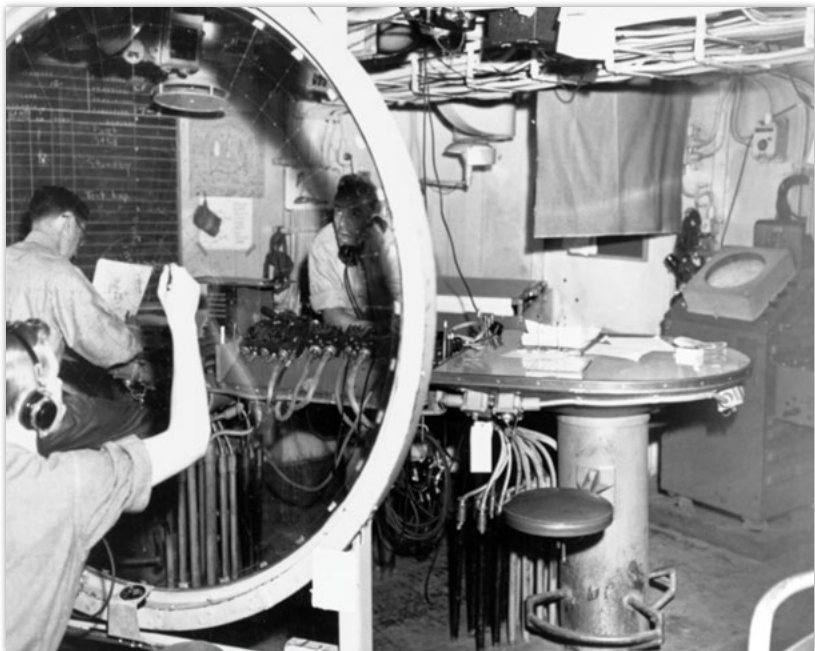
While the Navy quickly recognized the impact that new technology had on ratings and training during World War II, it did not fully appreciate the amplifying effect that developments like the combat information center had on the need for high-aptitude enlisted sailors. First introduced to the fleet in 1943, the CIC centralized all sensor information and decision-making into one location aboard a warship. Before the age of digital computing, data correlation required skilled personnel to interpret incoming information and record or update it on the relevant plot. Work in the

20 “Chapter 2: Officer Training; I – A Broad View,” in Manuscript of the Administrative History of the Bureau of Naval Personnel in World War II, 105, box 22, folder: “Chapter 2: Officer Training; I – A Broad View,” Historical Records of Navy Training Activities, Training Division, RG 24, NACP; “Chapter 3: Operational Training,” in Manuscript of the Administrative History of the Bureau of Naval Personnel in World War II, 295, box 22, folder: “Chapter 3: Operational Training,” Historical Records of Navy Training Activities, Training Division, RG 24, NACP.

21 “Enlisted Personnel Classification and Distribution in World War II,” 175/55–179/59; “U.S. Navy Personnel Strength.”

CIC was (and remains) an intense and demanding job and often requires abstract thinking beyond simple technical expertise. It also distributes the decision-making process aboard U.S. warships among junior officers and even enlisted personnel; while the captain of a warship remains the ultimate authority, he cannot interpret all incoming data on his own, nor can he generally be expected to fully understand how that data is gathered. The original incarnation of the CIC was only the beginning of this trend, and as sensor technology has continued to advance in the wake of World War II, so too has this dependence on effective and intelligent decisions by increasingly junior officers and enlisted sailors, who are expected to function more like trained engineers than laborers.²²

At least part of the reason why the impact of innovations like the CIC on personnel was obscured was the ongoing battle over the use of the



Enlisted sailors plot incoming information on a Plexiglas board in the combat information center of *Guadalcanal* (CVE-60), 3 June 1944. (NHHC, 80-G-384001)

22 Timothy Wolters, *Information at Sea: Shipboard Command and Control in the U.S. Navy, from Mobile Bay to Okinawa* (Johns Hopkins University Press, 2013), 170–221.

Selective Service System. While the draft had been reinstated on a limited basis in 1940, the Navy managed to avoid using the system at all until forced to do so by a surprise executive order on 5 December 1942. The bureaucratic battle over selective service largely revolved around dissatisfaction with the skills of the draftees provided to both the Army and Navy, as well as the Army's belief that the Navy siphoned off the best individuals through voluntary enlistment, leaving a draft pool with fewer high-quality candidates. While the Army won the battle to force use of the draft upon the Navy, the sea service never ceased recruiting in large part due to the failure of selective service to provide an adequate number of specialists.²³ Where the direct recruitment of specialists or the Selective Service System could not satisfactorily fill these roles, the Navy's rapidly developed school system attempted to fill the gap.²⁴

ENLISTED SCHOOLS IN WORLD WAR II

While initial training in the form of boot camp had been well established by the time World War II broke out, additional formal training beyond that remained unusual for the enlisted. Advanced schools existed, but they were largely limited to preparation for highly specialized tasks (such as the aviation, submarine, and hospital corps programs).²⁵ The majority of personnel remained dependent on the old apprentice-style, learn-on-the-job system into the late 1930s, with the only change being that boot camp was shortened several times in order to accelerate the influx of raw recruits into the fleet.²⁶

The Bureau of Navigation began expanding its school system only as the fleet entered the period of rapid growth in 1939–40. These new schools could be grouped into four primary categories: “A,” “B,” “C” (also known

23 African Americans were theoretically permitted to serve in any enlisted position after March 1942, but the 150,000 who served during the war nevertheless continued to be highly restricted and rarely went to sea or saw combat. They were also limited to a quota of about 10 percent per ship. “Enlisted Personnel Classification and Distribution in World War II,” 172/52–174/54.

24 “Enlisted Personnel Classification and Distribution in World War II,” 196/76; Chisholm, “Naval Personnel Since 1945,” 116.

25 “Enlisted Personnel Classification and Distribution in World War II,” 197/77.

26 “Enlisted Personnel Classification and Distribution in World War II,” 127/5–131/9.

as “factory”), and “P.” Class “A” schools offered basic-level training (generally for new recruits fresh from boot camp) in 33 different rates, with courses averaging about 16 weeks in length and the bulk of graduates then going directly to the fleet. These schools produced about 90 percent seamen, first or second class, and 10 percent petty officers, third class. Class “B” schools offered training in 20 rates geared primarily toward new ships (and therefore new technologies and systems) being added to the fleet, and ranged from 6 to 16 weeks in length. Many graduates of “B” schools went directly to class “C,” which delivered more advanced or specialized training that usually required specific equipment. These courses offered training in 40 different rates, ran 10 to 16 weeks in length, and also sent all graduates to newly built ships. Finally, class “P” schools (established in 1943 but only considered as a separate category in 1944) served as preparatory courses for certain class “A” schools.²⁷ All of the above schools were for technical



Specialized tasks required specialized training: Three chief petty officers instruct enlisted students in a submarine school classroom, circa 1943. (NHHC, 80-G-K-16120)

27 “Enlisted Personnel Classification and Distribution in World War II,” 196/76, 204/84.

training and direct responses to the short-term emergency that was World War II; the Navy did not have the time or resources to dedicate to anything the modern service would consider education or professional military education (PME), both of which are aimed at establishing a ready and lethal force in the long term. Even correspondence courses, which were maintained throughout the conflict, remained solely of a technical nature for the enlisted, intended to facilitate advancement through the ranks.

The expansion of the schooling system was completed in July 1943, which meant that the influence that these schools had on personnel assignments took full effect only after that date. As a result, the majority of enlisted assignment decisions prior to mid-1943 were made based purely on personnel availability or allocation rather than on any consideration of the talents or aptitude of any individual. This led to the continued assignment of enlisted sailors to tasks they were not qualified for, and produced a highly uneven experience level in the most demanding or cutting-edge jobs in the fleet (such as CIC or radar operator).²⁸ While underperformers were largely replaced with experienced sailors by 1944/1945, by then, the damage was already done.²⁹

Despite all of these difficulties, by and large this system worked well enough to man the majority of newly built warships, maintain the force, and see the Navy through the war. While the ship construction program began threatening to outpace available manpower by late 1944, shipbuilding contract cancellations and a dramatic downsizing in the planned size of the Army made more draftees available to the Navy, ensuring that the service did not further shorten or otherwise accelerate any of the existing training courses.³⁰ That said, the massive task of handling the influx of three million enlisted sailors also prevented the newly renamed Bureau of Naval Personnel from concerning itself with much beyond these training concerns, and enlisted welfare as we would recognize it today remained

28 "Enlisted Personnel Classification and Distribution in World War II," 199/79, 206/86.

29 "Enlisted Personnel Classification and Distribution in World War II," 199/79, 206/86.

30 "Chapter One – Curriculum Section, Part B – Special Studies in Development of Curriculum" and "Chapter One – Curriculum Section, 1. Recruit Training," Manuscript of the Administrative History of the Bureau of Naval Personnel in World War II, Historical Records of Navy Training Activities, box 21, Training Division, RG 24, NACP, 1–39.

entirely limited to the same provision of basic equipment for exercise and entertainment that it had largely been before the war.³¹

CONCLUSION

World War II proved to be a tremendous test for the Navy's early-twentieth-century personnel system, and the stresses of massive growth triggered fundamental and lasting changes to the way in which sailors were recruited, trained, and rated. That said, once the war ended, the social makeup of the Navy, which had been forced to take draftees through selective service, was also fundamentally changed. As a result, the ensuing Cold War played host to significant changes in other areas, such as education and welfare, which the Navy simply did not have the bandwidth to consider between 1940 and 1945. But the devolution of decision-making begun by the development of the CIC also continued as technology advanced in the wake of World War II, and its effects—namely the increasing educational and aptitude requirements for enlisted personnel—would largely remain unrecognized due to the urgency of general manpower shortages.

31 Harrod, *Manning the New Navy*, 129–39.

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COLD WAR CONSCRIPTS AND THE VIETNAM CRISIS, 1945–73

Although the Selective Service System expired in 1947 as part of the rapid post–World War II demobilization of the U.S. armed forces, the draft was reinstated in 1948 at President Harry S. Truman’s request, stemming from rising tensions with the Soviet Union.¹ Between 1950 and 1953, the Korean War dramatically demonstrated the continued need for the U.S. Navy as a power projection force in the postwar world, while simultaneously making it clear that selective service would continue for the foreseeable future. Manpower shortages were common in this period, but the Navy did not directly take draftees. Instead, the service continued its prewar practice of heavy recruiting, luring many better-educated, or otherwise higher-qualified individuals, to enlist before they were conscripted into another branch of the military (particularly the Army). Keeping these sailors, who would not have considered a Navy career without the draft, beyond their first enlistment proved increasingly difficult through the 1950s and into the 1960s.² Making matters worse, the proliferation of ratings and devolution of decision-making that had begun in earnest during World War II accelerated with the introduction of increasingly advanced technology, such as digital computers, guided missiles, and nuclear propulsion, raising the general education and training requirements of those who served.³ The

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- 1 “History of the Selective Service System,” Selective Service System, accessed 6 March 2025, <https://www.sss.gov/history-and-records/>.
 - 2 John S. Malone, *A Study of Enlisted Retention in the Navy* (Bureau of Naval Personnel, 1967), iv.
 - 3 Chisholm, “Naval Personnel Since 1945,” 129; Defense Committee on Professional and Technical Compensation, *A Modern Concept of Manpower Management and Compensation for Personnel of the Uniformed Services*, vol. 1, *Military Personnel* (Office of the Secretary of Defense, 1957), 1–24; Wolters, *Information at Sea*, 170–221.

result was a growing need to accurately track and retain highly qualified individuals, particularly those more specialized sailors in whom the Navy had invested considerable time and money preparing to do their jobs. Despite the service's intentions, retention rates plummeted to dangerously low levels by the 1960s, largely thanks to demographic tensions and the presence of the aforementioned shadow draftees unwilling to reenlist. As a result, manpower shortages reached crisis proportions during the height of the Vietnam War.

THE COLD WAR AND THE INSTITUTIONALIZATION OF THE HYBRID ENLISTED FORCE

The U.S. demobilization after World War II began in earnest with the German surrender in May 1945 and rapidly gained momentum following Japan's official capitulation on 2 September. The service executed a rather large demobilization based on 1943 assessments, which did not reflect the emerging post-World War II circumstance of a Cold War with the Soviet Union. From its height of just over three million enlisted sailors in the last year of the war, the Navy contracted to a little over 1.8 million sailors in 1946 and 464,501 sailors in 1947 as selective service expired and the fleet's operational tempo decreased. The service ultimately bottomed out at 396,204 sailors in 1948. While this level was still around five times the size of the enlisted population of the mid-1930s, the speed at which it was reached indicates the political importance attached to the public demand for rapid demobilization. This was a direct parallel of the United States' actions following its participation in the First World War (and all previous conflicts) and was initially unique only in terms of the extensive demobilization planning undertaken before the war was over.⁴

The attempt at a return to prewar norms lasted only about 15 months; even while demobilization progressed, it became apparent that there would be continued and extensive demand for a global U.S. military presence, necessitating a novel standing peacetime military establishment. The National Security Act of 1947—passed in July, four months after the end of selective service—effectively recognized the emerging circumstances of the Cold War by, among other effects, unifying the War (Army/Air Force)

4 "U.S. Navy Personnel Strength."

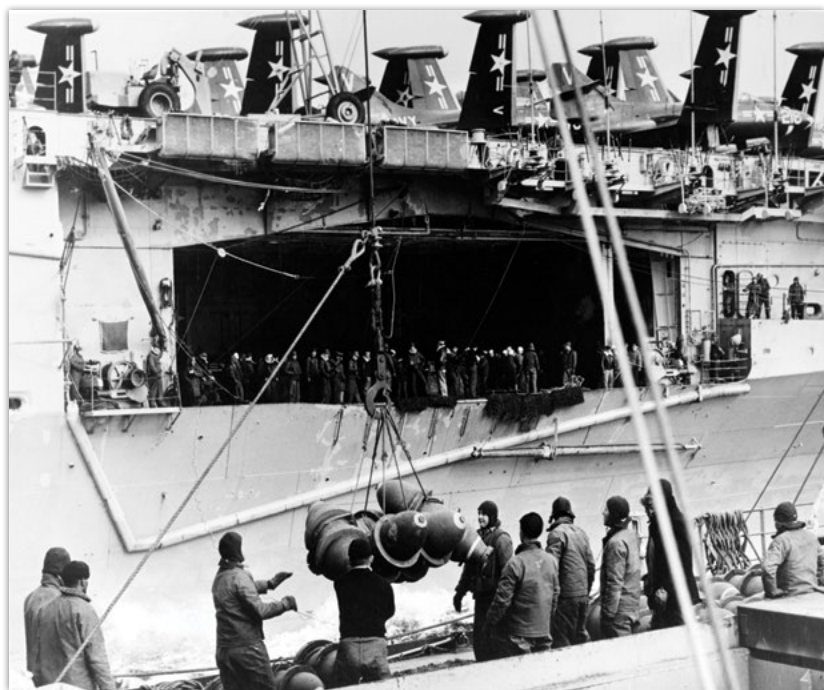
and Navy Departments under a new Department of Defense (DOD) for the sake of efficiency.⁵ A new Selective Service Act was then passed into law on 24 June 1948. Intended as a temporary supplement to recruiting for two years, this act was instead renewed repeatedly until active use of the legislation ended in 1973 (although all men to this day are still required to register with the system when they reach the age of 18). This had little effect on the Navy at first. The majority of individuals inducted through the previous iteration of the act had departed the service, leaving only those who had volunteered and were judged worth keeping based on their record and skills.⁶

The outbreak of the Korean War abruptly shifted the entire calculus behind the draft and the Navy's rapid demobilization. When the North invaded on 25 June 1950, only lightly equipped garrison forces in nearby Japan were immediately available, and tactical air force units were unable to deploy due to the rapidity with which forward air bases were overrun. This left the bulk of the defense work to the U.S. Seventh Fleet (at the time, essentially a single carrier and a handful of cruisers and destroyers). U.S. carrier aircraft provided the majority of Allied close air support and interdiction throughout this conflict, with U.S. naval supremacy creating a highly permissive environment for naval operations. The Navy's critical support, particularly during the period of high fluidity in the front line through the end of 1950, demonstrated the immense value of the sea service as an instrument of power projection ashore. This experience reinforced the service's claim to funding for its aircraft carriers and conventional surface forces and did away with the most extreme demands for post-World War II economizing; after Korea, the Navy set a goal of 15 active fleet carriers, up from just 7 as late as 1950.⁷

5 While the need for such a move was perceived much earlier for the sake of interservice cooperation, the emerging Cold War gave new impetus to the idea of defense unification.

6 C. Thomas Clifton, *The Need and Methodology for Determining Naval Enlisted Manpower Requirements* (Office of Naval Research, 1953), iv–vi.

7 While the target was 7 active fleet carriers, 11 remained officially in commission when the Korean War broke out. Hone and Utz, *History of the Office of the Chief of Naval Operations, 197–206*; Norman Friedman, *Fighters over the Fleet: Naval Air Defence from Biplanes to the Cold War* (Naval Institute Press, 2016), 238, 242.



Sailors transfer bombs from *Mount Katmai* (AE-16) to *Philippine Sea* (CV-47) on 29 November 1950 for close air support operations during the Korean War. The critical role of carrier aviation in Korea resulted in a rapid rebound of the Navy's forces after dramatic post-World War II cuts. (NHHHC, 80-G-439879)

A peacetime fleet based around 15 aircraft carriers required large numbers of long-term sailors, but turnover in the enlisted force led to instability, despite relatively stable overall numbers from 1951 to 1972. The rapid recommissioning of warships to meet the Korean emergency led to an initial surge back to over 700,000 enlisted by 1951, nearly double the size of the service just two years earlier. By 1955, peacetime manning practices and general personnel shortages reduced this number back to around 600,000 enlisted sailors⁸ The service remained within about 50,000 of that number until 1972, but was highly volatile from year to year, depending on expiring

8 In general, the Navy after World War II tended to build its surface force structure sequentially; it decided how many aircraft carriers it could support and then worked downward to cruisers, destroyers, and smaller forces from there. "U.S. Navy Personnel Strength."

enlistments. Postwar prosperity and economic expansion challenged Navy leadership as the lure of life outside the service curtailed reenlistments and skewed the force uncomfortably toward dependence upon inexperienced single-enlistment sailors.⁹

While Navy recruiting campaigns were generally effective, the individuals they brought in had markedly different expectations of their time under arms from those recruited just a few years earlier. This was thanks in large part to the fact that volunteering for a fixed-length stint in the sea service exempted an individual from being drafted for the Army. After the 1964 Gulf of Tonkin incident, which led President Lyndon B. Johnson to commit large-scale U.S. combat forces to Vietnam, opting for sea service rapidly became an attractive option. While it effectively meant that the Navy got the first pick of draftees, it also came with a major drawback: enlistees who were avoiding the draft left military service in large numbers when their mandatory first term expired. These individuals never meant to make a career of the Navy, and therefore the service had to find ways to make the sailor life more attractive—something it had never had to do before—if it wished for anyone to reenlist long enough to reach the more senior enlisted ranks.¹⁰ This isn't to say that long-service recruits didn't exist, but rather that by the 1950s and 1960s, these men both constituted a relative minority of the service and were also a finite resource. Those recruited before or during World War II who remained with the Navy were retiring in large numbers, so their ability to pass on knowledge in the old way by teaching new enlistees on the job was rapidly dwindling.¹¹

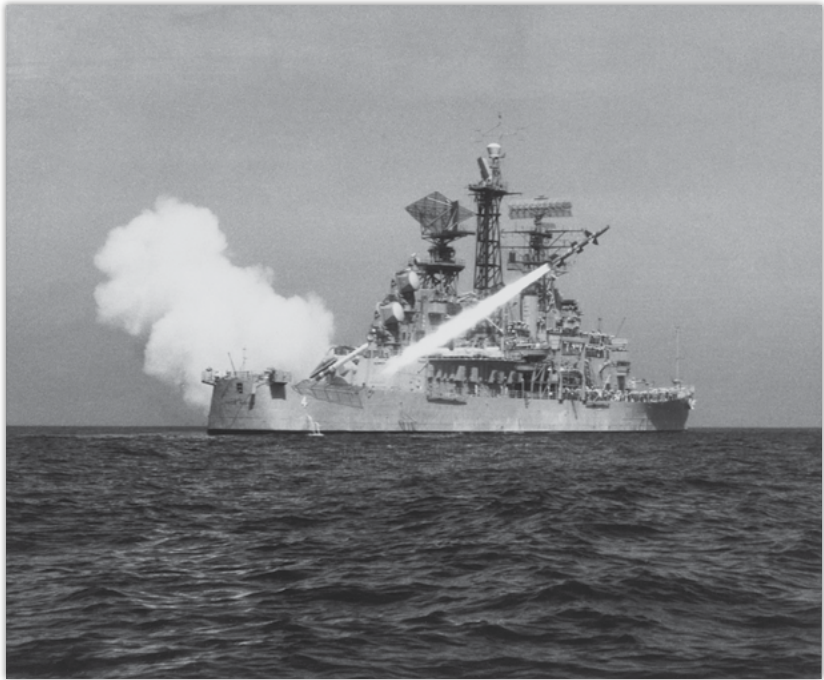
The on-the-job training concept was further complicated by two major factors, the first of which was the advent of paradigm-shifting technology, particularly missiles, computerization, and nuclear propulsion. Guided-missile technology was first developed by the Navy following the introduction of kamikaze tactics by the Japanese during World War II, with two major programs, Lark and Bumblebee, fast-tracked to aid in the defense of

9 "U.S. Navy Personnel Strength."

10 James Thomason, *Retention Costs of the GI Bill and the Draft: New Evidence from the Navy's Enlisted Force* (Center for Naval Analyses, 1987), 1–3, 22–23; Malone, *Enlisted Personnel Retention*, iv.

11 Chisholm, "Naval Personnel Since 1945," 114–19.

the fleet against this first guided-weapon threat. While neither program was ready for deployment before the war's end, Bumblebee split into three different weapons—the RIM-24 Tartar, RIM-2 Terrier, and RIM-8 Talos, in order of their effective range—that entered service in the late 1950s and early 1960s. Critical to the Navy's concept of fleet air defense in the jet age, these missiles were highly complex and temperamental systems that required considerable training to handle and maintain. Each system was also fundamentally different, requiring three different training pipelines.¹²



Little Rock (CLG-4) fires a RIM-8 Talos missile in May 1961. Advanced and temperamental technology like guided missiles required not only its own training pipeline but also a new degree of technological literacy from sailors. (NHHC, NH 98953)

12 Malcolm Muir Jr., *Black Shoes and Blue Water: Surface Warfare in the United States Navy, 1945–1975* (Naval Historical Center, 1996), 66–67, 85, 99–104; Friedman, *Fighters over the Fleet*, 314–17; Thomas Wildenberg, *The Origins of Aegis: Eli T. Reich, Wayne Meyer, and the Creation of a Revolutionary Naval Weapons System* (Naval Institute Press, 2024), 93–101, 132–37, 141–50.

The Navy's new missile technology was paired with a major advance in the CIC concept: the Naval Tactical Data System (NTDS) developed in the late 1950s. NTDS was a digital plot or "picture-keeper" that functioned as a ship's tracking memory so that its radar could simultaneously continue searching for new targets. This innovation eliminated a degree of human error in plotting and significantly improved the Navy's air defense capabilities by dramatically increasing the threshold at which CICs became saturated (unable to accurately track all incoming threats). But it also thereby indirectly increased the workload on human operators and created a requirement for individuals in the CIC to be computer literate. Many of these operators (the nuance of whose jobs could not be quickly grasped by officers in overall command) were enlisted, meaning that NTDS effectively further accelerated the trend of the distribution of command decision-making among junior officers and enlisted sailors. NTDS was also paired with increasingly sophisticated sensors (such as airborne early warning radar) and electronic intelligence and warfare equipment and tactics, doubling down on the need for highly capable sailors.¹³

Simultaneously, the introduction of nuclear propulsion aboard the submarine USS *Nautilus* (SSN-571) in 1954 tremendously complicated enlisted propulsion training and massively raised the stakes for mishaps. This technology was championed by Admiral Hyman G. Rickover from his position as chief of Naval Reactors, and the virtually unlimited range that this propulsion system promised soon also led to the 1961 commissioning of USS *Enterprise* (CVN-65), the first of a number of nuclear-powered carriers, and follow-on, similarly powered cruisers and destroyer leaders. The proliferation of this technology throughout the fleet, along with accompanying advanced sensors and increasingly sophisticated digital computers, produced new challenges for BuPers in determining who was

13 Defense Committee on Professional and Technical Compensation, *A Modern Concept*, 1:1–24; Friedman, *Fighters over the Fleet*, 321–28; Thomas Dimitry, "A Descriptive Study of the Navy Campus for Achievement: An Analysis of the Recruitment and Retention Potential of Navy Campus for Achievement at the Philadelphia Naval Base" (PhD diss., Temple University, 1980), 3.

even qualified for the training to serve on these vessels, a complex question for what was still a largely unsophisticated rating system.¹⁴

Beyond adapting to complex technology, those who served throughout this early period of the Cold War did so in a far more socially complicated environment. The postwar manpower crunch, combined with President Truman's Executive Order 9981 of 26 July 1948 to desegregate the armed forces, meant that many enlisted roles were open to a broader swath of American society than had been the case since the 1890s. That said, military forces are generally something of a reflection of the society that created them, and, like the country itself, the 1960s and 1970s Navy was wracked by social unrest. Social tensions and antiwar sentiment in particular grew so severe that they began to threaten the Navy's ability to carry out its mission, such as with the riot aboard the aircraft carrier USS *Kitty Hawk* (CV-63) and repeated instances of sabotage aboard USS *Ranger* (CV-61) during operations off the coast of North Vietnam in 1972.¹⁵ Similarly, drug abuse among sailors rose dramatically during this period, just as it did in American civil society. Repeated attempts to contain the problem, such as the institution of effective testing regimes, failed, and drug use would continue to degrade operational efficiency into the 1980s.¹⁶ Both of these problems combined to further drive down enlistment and retention rates to catastrophically low levels, the latter to the single digits late in the 1960s.¹⁷

These personnel factors were, ultimately, the icing on the cake that was the Navy's problems entering the 1970s. While the tremendous expansion of the World War II years had equipped the service with thousands of

14 Chisholm, "Naval Personnel Since 1945," 129; Defense Committee on Professional and Technical Compensation, *A Modern Concept*, i:vii–ix, 1–24; *Statement Before the House Subcommittee on Energy Research and Production of the House Committee on Science and Technology*, 93rd Cong. (1973) (statement of Hyman G. Rickover, Director Naval Nuclear Propulsion Program), 7–8, 13–16, 18–21, 24–37, 42–44, 54–58; Wolters, *Information at Sea*, 4.

15 Chisholm, "Naval Personnel Since 1945," 117–19.

16 "Military Drug Program Historical Timeline," Office of the Under Secretary of Defense for Personnel and Readiness, accessed 3 January 2025, <https://prhome.defense.gov/Portals/52/Documents/RFM/Readiness/DDRP/docs/72208/DoD%20Drug%20Policy%20History.pdf>; Sal A. Paolantonio, "Not in My Navy," *Proceedings* 108, no. 8 (1982), <https://www.usni.org/magazines/proceedings/1982/august/not-my-navy>.

17 Chisholm, "Naval Personnel Since 1945," 117–18.

warships, by the late 1960s, the march of time, advancing technology, and the high operational tempo off Korea and Vietnam meant that the majority of this resource was worn out or obsolete. Worse, operating the remaining World War II-era ships became extremely expensive, and maintaining them actively prevented these same funds from being used on new construction or increasing incentives for sailors to reenlist.¹⁸ The Nixon administration's decision to terminate use of the draft and revert to an all-volunteer military as of 27 January 1973 accordingly meant that the Navy could no longer rely on enlistees being pushed into the service in order to avoid the Army. It was therefore clear that major changes to personnel policy were necessary.

THE RETENTION CRISIS AND BUPERS REFORMS

While the gradual deterioration of the personnel situation in the Navy might appear at a glance to be the result of negligence, the aforementioned draft, rapid advance of technology, and social upheavals in American society all combined to seriously muddy the waters for the Bureau of Naval Personnel. The experience of World War II had awakened the service to the need to track the skills of individual enlisted sailors and develop ways to effectively apply them, leading to the establishment of organizations such as the Personnel Research Activity within BuPers. Numerous studies by this particular group during the 1950s and 1960s effectively confirmed that no single issue (or even particular group of issues) had an outsized effect on enlisted retention, and the persistence of old styles of training and manning (primarily by numbers and without real input from the individuals involved) complicated the task of placing the most qualified people in the most critical jobs. In effect, the immediate legacy of World War II and selective service was an unsolvable skills crisis for a service that was still learning how to manage skills.¹⁹

As mentioned above and in the previous chapter, there were dozens of ratings by the end of World War II (from only a handful of broad ones in the mid-1930s), chiefly due to the proliferation of technology and the

18 John B. Hattendorf, *U.S. Naval Strategy in the 1970s: Selected Documents* (Naval War College Press, 2007), 17–25.

19 Malone, *Enlisted Personnel Retention*, iv; Thomason, *Retention Costs*, 1–3, 22–23.

resulting increased need for specialists.²⁰ While the Navy worked hard to consolidate this sprawl during and just after the war, the continued advance of technology prevented a full reversion to broad ratings fully dependent upon on-the-job training.²¹ That said, the Navy was conscious of these issues from the beginning. Significant consolidations of weapon systems, such as the attempt to combine Tartar, Terrier, and Talos, first unsuccessfully into the RIM-50 Typhon, then successfully into the RIM-66 Standard Missile, were just as much motivated by the desire to streamline personnel selection and training as to simplify logistics and improve reliability. But these moves did little to clarify precisely how the Navy should select the best among the enlisted for work with complex systems, let alone how they could be retained.²²

The fact that a healthy number of the Navy's volunteers through the 1950s, 1960s, and early 1970s came from individuals avoiding service elsewhere meant that there simply was no real consistency to the background of recruits or to their motivations for potential reenlistment. Sailors of this period could be clearly delineated between those avoiding selective service and those looking for a career. The former group, which generally lacked a college education, usually had no taste for reenlistment no matter what the incentives were.²³ Numbers were generally skewed heavily toward these individuals, with only around 10.3 percent of first-time enlistees opting to remain with the service in the late 1960s (while reenlistments out of second-time enlistees averaged a much higher 66 percent). As for those who did desire a Navy career, their motivations for potentially reenlisting were so widely varied that the Navy could not focus on anything in particular to improve the overall retention rate. These patterns were evident in repeated surveys by BuPers's Personnel Research Activity, which diligently worked

20 Enlisted Personnel Classification and Distribution in World War II," 172/52-174/54.

21 Enlisted Personnel Classification and Distribution in World War II," 269/147-325/203.

22 Benjamin B. Weybrew and Ernest Noddin, *Factors Related to the Failure of Enlisted Submarine School Graduates to Qualify* (Bureau of Medicine and Surgery, 1969), ii, 2-8; Friedman, *Fighters over the Fleet*, 314-17; Muir, *Black Shoes and Blue Water*, 66-67, 85, 99-104; Wildenberg, *Origins of Aegis*, 93-101, 132-37, 141-50.

23 Thomason, *Retention Costs*, 1-3, 22-23.

to address what sailors themselves perceived as the Navy's shortcomings throughout this period.²⁴

The approach to recruitment and retention adopted by BuPers and the wider Navy in the 1950s and 1960s attempted to address as broad a swath of enlisted concerns as possible. Veteran skill retention was targeted directly by the institution of E-8 (senior chief petty officer) and E-9 (master chief petty officer) ranks via a 1958 amendment to the Career Compensation Act of 1949, providing higher-paying positions of seniority (and a longer career ladder) for the most experienced sailors in the Navy.²⁵ When further surveys indicated a belief that enlisted concerns were not reaching the upper echelons of the service, one E-9—Master Chief Gunner's Mate Delbert Black—was appointed the service's first senior enlisted advisor in 1967, a role soon renamed the master chief petty offi-



Master Chief Petty Officer of the Navy Delbert Black. (NHHHC, L38-07.01.01)

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- 24 Albert S. Glickman and George W. Mayeske, *Studies in Career Motivation: III; Effects of Repeated Questionnaire Administration on Returns and on Intended and Actual Reenlistment* (Bureau of Naval Personnel, 1962), 8; Harold J. Dupuy and Robert W. Deimel, *Navy Recruitment Survey* (Bureau of Naval Personnel, 1967), iii, 3–8; Patricia J. Thomas, *An Analysis of the Navy Enlisted Performance Evaluation System* (Bureau of Naval Personnel, 1968), iii–v, 4–24.
- 25 This act also brought the Navy structure in line with the other services, which was part of the congressional motivation for amending the 1949 legislation. Defense Committee on Professional and Technical Compensation, *A Modern Concept*, 1:vii–ix, 43–76; Lester B. Tucker, “History of the Chief Petty Officer Grade: 120 Years of Deckplate Leadership,” *All Hands*, 3 April 2013, <https://allhands.navy.mil/Stories/Display-Story/Article/1839459/history-of-the-chief-petty-officer-grade/>.

cer of the Navy (MCPON), expressly to ensure that sailors' voices were heard.²⁶ Finally, the career counseling program was introduced alongside the digitization of personnel records with the development of the Advancement, Strength, and Training Plans (ADSTAP) system. These last changes were intended to clarify the Navy's actual personnel needs by first encouraging individual sailors to pursue a career path based on their strengths, and then match them to where they were most needed based on their skill sets.²⁷

Unfortunately, even with all of these changes, the primary challenge posed by the bifurcation of enlisted sailors between those looking for a career and those who were effectively draftees meant that reenlistment rates remained critically low through the end of the 1960s. There was simply no way to entice sailors who had joined the Navy merely to avoid the Army to stay.

THE (RE)BIRTH OF NAVAL EDUCATION

Conspicuously absent from the above description of BuPers activities in the early Cold War is the subject of enlisted education. At the time, the bureau's *modus operandi* was not to pursue education initiatives because highly educated individuals within the fleet were destined to be officers (or, at the very least, warrant officers). Accordingly, while BuPers's own initial foray into enlisted education involved the provision of a four-year college degree, the Navy Enlisted Advanced School Program and the Navy Enlisted Scientific Education Program, initiated in 1956 and 1958 respectively, were geared specifically toward retaining advanced engineering knowledge by

26 Charlotte D. Crist, *Winds of Change: The History of the Office of the Master Chief Petty Officer of the Navy, 1967–1992* (Office of the Master Chief Petty Officer of the Navy and the Naval Historical Center, 1992), 1–4, 13–28.

27 Harold A. Holoter et al., *Impact of Navy Career Counseling on Personnel Satisfaction and Reenlistment* (System Development Corporation, 1973), 1.1–1.7, 5.1–5.11; Joe Silverman, *New Concepts in Enlisted Personnel Planning: Introduction to the ADSTAP System* (Naval Personnel and Training Research Laboratory, 1971), vii–viii, 1–3.

commissioning the individuals involved after several years of college study.²⁸ These were therefore not enlisted education programs but commissioning pipelines. While the bureau did begin making changes to its approach to education in the late 1960s, it was not the first to act in that area despite its nominal control of the majority of personnel matters. Instead, alterations to enlisted education—and indeed, to all education in the Navy—were initiated by Admiral Rickover nearly a decade earlier.

As discussed previously, rapid technological advancement, particularly the introduction of nuclear propulsion, substantially raised the educational qualifications needed to operate the fleet. While nuclear power is effectively a more efficient way to create steam and is therefore a logical development of the high-pressure steam plants that preceded and coexisted with it during the Cold War, the operation of a reactor is nevertheless a far cry from working with an oil-fired boiler. In a major break from Navy tradition, this meant that special training sites had to be set up *ashore* where safe and practical training could take place. However, throughout his time as chief of Naval Reactors, Admiral Rickover was nothing short of obsessed with safety. He therefore used his expansive reach, which allowed him a major say in any part of the Navy that came into contact with nuclear power, to double down by providing not just practical training for those working with reactors but training in nuclear theory, as well as the advanced mathematics and physics behind their operation.²⁹

28 These two programs were designed to train individuals in electrical engineering and were created in direct response to the Soviet launch of Sputnik rather than any perception of creeping educational requirements. Additionally, while the number of high school graduates among the enlisted increased substantially and two-year college degree holders marginally between 1952 and 1972 (from 52.6 percent and 7.9 percent to 81.3 percent and 8.6 percent, respectively), the number of four-year college degree holders actually declined slightly over that same period (from 2.8 percent to 2.7 percent). Bureau of Naval Personnel, *Navy Enlisted Scientific Education Program: A Status Report* (Bureau of Naval Personnel, 1966), 4–6, <https://hdl.handle.net/2027/uc1.5c25014>; Office of the Assistant Secretary of Defense (Comptroller), *Selected Manpower Statistics, Fiscal Year 1972* (Department of Defense, 1973), 42–43.

29 Rickover, testimony to *House Subcommittee on Energy Research and Production*, 30–35.

Admiral Rickover was a career engineer, and his influence on naval education marked a major philosophical turning point for the Navy.³⁰ From the earliest days, the service had always sought to train its officers as generalists—that is, for them to understand and be able to carry out *any* order that they might issue in the course of command. This led to a standardized career development path at the beginning of the twentieth century that all officers were expected to follow, regardless of their interests.³¹



Rear Admiral Hyman G. Rickover, 1955. (NHHC, 80-G-K-18497)

Based on a four-year, sea-focused education at the U.S. Naval Academy, said path produced only generalists who were expected to fill every post in the Navy. It also produced a strong opposition to any sort of formal specialization of general line officers, thanks to the half century of trouble (1842–99) that accompanied the Navy’s previously separate rank systems for officers and propulsion engineers.³² While unification of the ranks was completed in 1899, 19 years before Rickover’s time at the U.S. Naval Academy, he was

30 Although he is remembered primarily for his work in nuclear propulsion, Rickover’s chief obsession was with education. Hagerott, “Commanding Men and Machines,” 1–27, 29–33, 190–208. For further reading on Rickover’s extraordinary reach and influence, see Francis Duncan, *Rickover: The Struggle for Excellence* (Naval Institute Press, 2001).

31 Chisholm, *Waiting for Dead Men’s Shoes*, 419–36; Pitrof, *Too Far on a Whim*, 82–86.

32 Separate rank systems for engineers created many issues, but the biggest were seniority, chain of command, and qualification problems. While engineers held total ownership of their ship’s propulsion plant, there was no clear way to sort out disagreements over the same between the chief engineer and ship’s commanding officer. Similarly, general officers held that an engineering specialist was not qualified for overall command of a ship. Chisholm, “Naval Personnel Since 1945,” 129, 131; Chisholm, *Waiting for Dead Men’s Shoes*, 700; Pitrof, *Too Far on a Whim*, 83.

well aware of the troubled history of naval engineers, particularly as he was taught by, and served under, officers who had dealt with the engineering crisis directly. Nevertheless, the future admiral took a liking to engineering and in 1937 was designated EDO, then meaning “engineering duty *only*” (as opposed to the modern “engineering duty officer”).³³

The Navy’s dislike of personnel specialization, which was clear in its enlisted practices as well, did not survive beyond the interwar period due to the need for both specialized engineers and pilots as technology advanced. The intense pressures generated by World War II’s massive expansion of the fleet further complicated the practice of avoiding specialists, as training time became so compressed that both officer and enlisted specialists were procured directly and designated as such wherever possible. But after the war’s end, the Navy still attempted to round out the training of whoever remained with the fleet and quickly returned generalists to a position of authority.³⁴ This isn’t to say that officer education didn’t change at all, but that courses at the academy were merely updated to reflect the changed state of technology without affecting their overall intent.³⁵

As the head of Naval Reactors, Rickover moved to decisively end the superiority of generalists over specialists. He ensured that all degrees granted at the U.S. Naval Academy in the middle of the Cold War were bachelor of science degrees and introduced majors at the academy so that all officers would begin their careers with a specialist background. Rickover was able to do this in large part because of his dual-hat position in the Department of Energy; in his role with the Atomic Energy Commission, he could testify directly to Congress and outflank Navy leadership on

33 In fact, not only was Rickover aware of the controversy surrounding the amalgamation of the officer corps, but he strongly believed that it signified that all commanders *must* be engineers, not just somewhat trained in engineering. Francis Duncan, *Rickover and the Nuclear Navy: The Discipline of Technology* (Naval Institute Press, 1990), 243; Hagerott, “Commanding Men and Machines,” 190–208.

34 Which was in the end, not surprising, as most high-ranking officers were unchanged from before the war.

35 Pitrof, *Too Far on a Whim*, 171–76.

any matter that could be related to nuclear power.³⁶ The result was, from the ground up, a complete transformation in the background, practices, and mindset of the entire Navy. For better and for worse, the fleet is still dealing with the ramifications of this change today.³⁷ While there was no generalist paradigm to upset on the enlisted side (if anything, that ship had sailed during World War II), Rickover nevertheless stepped into the push-pull of ratings expansion, consolidation, and the bifurcation of enlisted recruits with his mandate in 1957 that required those working with nuclear power to study advanced math and physics. This was the first time that purely educational requirements beyond a high school diploma were imposed on the enlisted, as well as the first time that the service committed itself to educating its sailors on the government dime, albeit for a specific practical task.³⁸

Rickover's actions proved the value highly educated enlisted personnel could have for the fleet if it could retain them, but as part of the Navy's survey efforts in the 1960s, it also became increasingly apparent that the provision of an advanced education to those under arms was desirable to sailors as well.³⁹ The potential for an advanced education to be an effective recruitment and retention tool thus led directly to the creation of BuPers's Associate Degree Completion Program (ADCOP) in 1966. This pilot program sent 60–70 petty officers a semester to junior college on the Navy's dime. The service received highly positive feedback from those who took part in this program.⁴⁰ From the Navy's perspective, a marked increase in job efficiency claimed by graduates was dwarfed by the potential guarantee that these same highly experienced sailors would reenlist. Due to the small number of sailors allowed in the program, ADCOP could not be anything

36 Duncan, *Rickover and the Nuclear Navy*, 97, 115–46, 249–50; Duncan, *Rickover: The Struggle for Excellence*, 174–87, 306–10; Hagerott, “Commanding Men and Machines,” 229–46; Rickover, testimony to *House Subcommittee on Energy Research and Production*, 24–37.

37 Hagerott, “Commanding Men and Machines,” 445–68.

38 The manpower situation in the late 1960s and early 1970s was so critical that even this requirement was frequently ignored. Chisholm, “Naval Personnel Since 1945,” 117–18.

39 Malone, *Enlisted Personnel Retention*, iv; T. W. Muldson, *An Appraisal of the Associate Degree Completion Program by Its Graduates* (Bureau of Naval Personnel, 1969), iv.

40 Muldson, *Associate Degree Completion Program*, iv.

more than a carrot, an incentive for the highest performers among the senior enlisted. Furthermore, those who benefitted from the program even went so far as to openly counsel against including third-class petty officers, as they were generally not “career oriented.”⁴¹ But, like all other initiatives during this period, ADCOP’s effectiveness, even simply as a small-scale incentive, was ultimately held back by the refusal of nearly all selective service volunteers to reenlist, no matter the circumstances. From the broader perspective of the reenlistment crisis, even this experimental effort was therefore a wasted investment for the service.⁴²

CONCLUSION

In the end, the unique personnel structure of the Navy during the first half of the Cold War ensured a steady flow of recruits, but also guaranteed a critically low reenlistment rate. The service was naturally reluctant to invest resources in educating sailors who would then promptly leave for civilian life, but the rapid advance of technology continually raised the bar for safe and efficient operation of the fleet. There was also no going back on the need for high-aptitude enlisted sailors in CICs, especially after the introduction of NTDS in the late 1950s. While BuPers experimented with numerous means to improve recruitment and retention, nothing effective could be finalized before the draft ended. But despite these problems, significant changes began under the auspices of Admiral Rickover and Naval Reactors. The implementation of advanced math and physics courses for sailors involved with nuclear propulsion crossed the bridge from the training of the enlisted in practical matters to education in the theoretical for the first time in the Navy’s history. This was considered necessary for safety, as having a handle on how nuclear reactions worked would help the enlisted manage a particular power plant because they would need to reason from the theory to the actual. In this way, Rickover’s reforms foreshadowed the evolution of education in the Navy; this same reasoning would eventually serve to underline why an advanced education was desirable for *all* sailors in the decades that followed.

41 Muldson, *Associate Degree Completion Program*, iv.

42 Muldson, *Associate Degree Completion Program*, iv.

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THE ALL-VOLUNTEER FORCE, 1973–91

Despite the appointment of Admiral Elmo Zumwalt as Chief of Naval Operations (CNO) in 1970 for the expressed purpose of stabilizing the material and personnel aspects of the Navy, the service continued to suffer from catastrophically low reenlistment rates through the transition to the all-volunteer force in 1973. When Zumwalt retired in 1974, many of his personnel policies were immediately reversed. Nevertheless, the service (and broader DOD) was forced to continue its pursuit of improved recruitment and retention through major changes to welfare and education programs. The latter in particular saw the introduction of a constellation of programs known as Navy Voluntary Education (VOLED) in 1974. As the U.S. economy dramatically worsened in the late 1970s, the Navy once again became a refuge for young adults looking for some semblance of stability. However, these recruits placed a new emphasis on family welfare that heavily influenced the service's continued refinement of its recruitment and retention efforts through the budget boom of the 1980s. But despite sweeping improvements in personnel welfare, education in particular remained purely a recruitment and retention tool in the eyes of the Bureau of Naval Personnel. The end of the Cold War only amplified this perception despite the continuing creep of technological sophistication (with the proliferation of NTDS and its successor, Aegis) and the accompanying need for ever-higher-aptitude enlisted sailors.

THE AVF TRANSITION

Admiral Elmo Zumwalt was appointed CNO by the Nixon administration in 1970 over the heads of dozens of more senior admirals explicitly for the radical force structure and personnel initiatives he proposed. The admiral quickly issued a master plan known as Project Sixty (named for its planned issuance 60 days after his assuming his post), outlining the

major points of his agenda. These included retiring old and obsolescing warships to free up funds for new construction; a raft of radical new uses of technology, like hydrofoils and placing antisubmarine helicopters on every warship with available space; a heavy emphasis on reducing family separation, increasing pay, and improving housing and personnel support facilities; and overall increasing job satisfaction. The personnel issues, Zumwalt noted, “must be dealt with directly before retention rates can be improved and shortages in experience corrected.”¹

Zumwalt acted rapidly on these proposals, arguing that the Soviet Navy, which was undergoing rapid expansion under the guidance of Admiral of the Fleet Sergey Gorshkov, was quickly gaining a dangerous numbers and capability advantage over the U.S. Navy. Throughout this process, the CNO frequently explained his thinking to the fleet by regu-



Chief of Naval Operations Admiral Elmo R. Zumwalt Jr. talks with a group of sailors on the mess deck of *Puget Sound* (AD-38) in 1970. (NHHC, L38-99.05.02)

1 Hattendorf, *U.S. Naval Strategy in the 1970s*, 23.

larly issuing communications directly to the ranks—something never done by any previous CNO—which he called Z-grams. These were essentially memoranda identifying specific issues to be corrected and encouraging enlisted sailors to reach out directly with their problems. But while this practice appears to have had some impact on the effort to assure sailors that their voices were heard, it also gave the appearance of bypassing the traditional chain of command and thereby caused considerable unrest among middle officers and petty officers alike.² The continuing social turmoil and unrest aboard Navy carriers and in Navy facilities in the early 1970s also made Zumwalt's activities front-page news, creating a perception that the CNO was failing and forcing him to defend his efforts publicly. This was far from an ideal image for the sea service as it approached the transition to the all-volunteer force; without shadow conscripts, the volunteer Navy could potentially kneecap itself by starting off from a point where it appeared not to want huge numbers of non-white potential recruits.³

The discontent within the service that his actions stirred, combined with the public spectacle of racial and antiwar unrest at sea, caused Zumwalt to ultimately lose political favor by the end of 1973. He retired from the Navy in July 1974 only to see many of his personnel policies, such as the loosening of uniform regulations, immediately reversed by his successor, Admiral James Holloway III. Worse, Zumwalt's attempts to improve the service's shipbuilding ability by retiring obsolete units (mostly updated World War II-era ships near the end of their service lives) ran up against escalating inflation in the late 1970s and succeeded only in maintaining a smaller force on the same budget.⁴ Nevertheless, Zumwalt's approach to the Navy's problems left a lasting legacy. He is, as a result, frequently an inspiration for CNOs devising their approach to their tenure, and his emphasis on confronting the Navy's tough personnel

2 Hone and Utz, *History of the Office of the Chief of Naval Operations*, 282, 292–97.

3 Hone and Utz, *History of the Office of the Chief of Naval Operations*, 293.

4 Hone and Utz, *History of the Office of the Chief of Naval Operations*, 292–97, 305–9.

problems head-on by directly addressing the ranks has become a particular point of reference.⁵

Overall, Zumwalt's policies prior to the middle of 1973 were generally considered too little and slow for many enlisted sailors but the precise opposite for some in Navy leadership. These critiques centered primarily on the CNO's attitude toward the importance of discipline; Zumwalt saw relaxing discipline as a way to increase job satisfaction, retention, and overall performance, whereas his detractors saw this as both an amplification of existing problems and a threat to combat readiness.⁶ The CNO also confronted a personnel crisis with no single or specific set of solutions, thanks to the hybrid conscript-volunteer enlisted force detailed in the previous chapter. His approach therefore primarily focused on emphasizing that which his predecessors had begun to pursue with the establishment of MCPON in 1967—that is, improving communication from the lowest ranks to the highest in an attempt to rapidly detect and correct problems that were not readily visible from the CNO's orbital view of the Navy. The apparent failure of Z-grams in this effort not only damaged the CNO's reputation within the Navy but also underlined the apparent dangers of MCPON pursuing similar methods of communication, and did no favors for the institutionalization of that latter office as a tool for communication and change.⁷

The transition to the all-volunteer force in mid-1973 altered this calculus with personnel issues. Although this paradigm shift was politically rather than operationally motivated (being a Nixon campaign promise in 1972), it dramatically simplified matters by limiting personnel to only those looking for some sort of career opportunity. But the highly charged antiwar clashes of the 1960s and early 1970s, combined with the racial tensions that not infrequently exploded into violence aboard the Navy's ships, left the service's reputation in tatters. While recruiting somewhat recovered in the first years of the AVF, educational levels fell steadily, and

5 Hone and Utz, *History of the Office of the Chief of Naval Operations*, 296–97.

6 Hone and Utz, *History of the Office of the Chief of Naval Operations*, 292–93, 296–97.

7 Crist, *Winds of Change*, 31–45.

manpower shortages were a regular occurrence, even for a diminished post-Zumwalt Navy.⁸

Making matters even worse was the proliferation of drug abuse among sailors that had been brewing since the 1960s. By 1981, this reached crisis proportions with the crash of an EA-6B Prowler aboard USS *Nimitz* (CVN-68) that killed 14 people.⁹ When autopsies of the victims revealed widespread marijuana use, congressional antipathy toward the Navy's ability to control its drug issues became a very public spectacle. Since Zumwalt's time, the service had been administering random drug tests to its officers and enlisted sailors at an increasing frequency, but preventative measures acquired a new urgency with the significant bad publicity that accompanied this congressional investigation.¹⁰

Despite all these difficulties, two major factors changed the Navy's personnel outlook for the better in the late 1970s and early 1980s: stagflation and a pro-Navy presidential administration. Due to numerous influences, including an economic slowdown and oil shortages imposed by the formation of the Organization of Petroleum Exporting Countries, inflation and unemployment rose dramatically, while wages largely remained stagnant. This exceptionally poor outlook for the civilian economy inspired an upswing in Navy recruitment, as enlisting guaranteed not only a steady paycheck but also room and board.¹¹ Alongside the peak of this phenomenon, the Reagan administration entered office in 1981, in part on a campaign promise of a stronger Navy. This included a drive for 600 ships, pushed primarily by Secretary of the Navy John Lehman, and resulted in an increased Navy budget and an accompanying expansion of naval personnel that ushered in another golden age for the service. Combined, these two factors led to an additional flurry of studies on

8 Directorate for Information Operations, *Selected Manpower Statistics, Fiscal Year 1972* (Office of the Assistant Secretary of Defense [Comptroller], 1973), 42–43, 52–55, 57–59; Directorate for Management Information Operations and Control, *Selected Manpower Statistics, Fiscal Year 1976* (Office of the Assistant Secretary of Defense [Comptroller], 1977), 45–46, 54–55, 57–62.

9 Paolantonio, "Not in My Navy."

10 Hone and Utz, *History of the Office of the Chief of Naval Operations*, 321–22.

11 Matthew S. Goldberg, *New Estimates of the Effect of Unemployment on Enlisted Retention* (Center for Naval Analyses, 1985), 9–10.

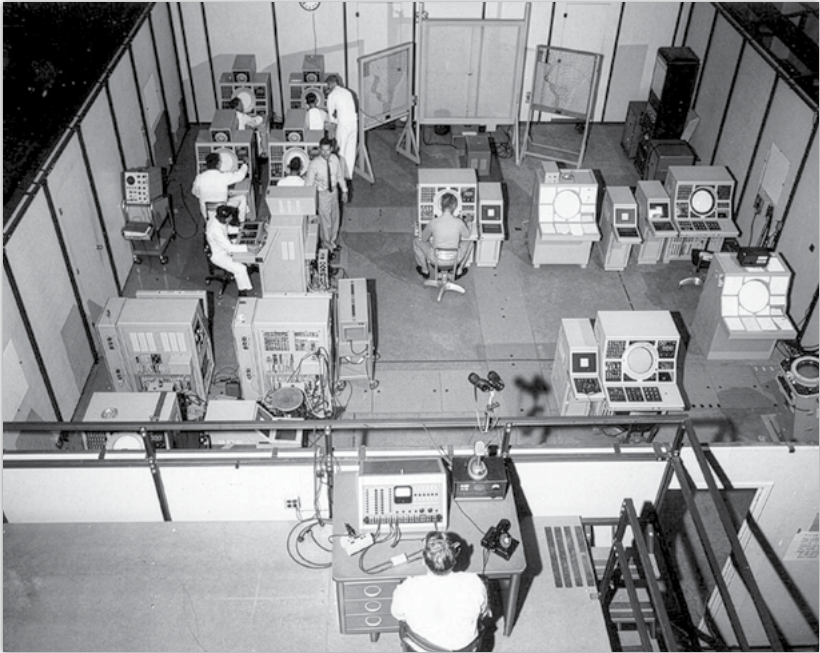
how to recruit and retain naval personnel, a matter of even more critical importance as advanced Aegis-equipped warships began entering the fleet.¹² While this boom time would come to a crashing halt at the close of the decade, the Navy's personnel changes in the 1970s had by then already set the stage for how the service would proceed through the next two decades.

A TRANSFORMED SERVICE

The end of the draft in 1973 stopped the influx of shadow conscripts, but this change did not simplify the sources of retention problems; if anything, the reasons why sailors might not reenlist grew even more complex. As weapons technology continued to advance (NTDS's successor in the Aegis Combat System was well into development in the mid-1970s), increased computerization further distributed the decision-making process to increasingly junior officers and enlisted personnel. While the growing complexity of systems and processes continued to raise the educational threshold for the safe operation and maintenance of warships and aircraft, the corresponding investment of time and money to attain a basic level of proficiency also elevated the importance of retaining veteran enlisted. The end of the draft eliminated a broad source of better-educated recruits who had finished some degree of college education and joined to avoid the Army, meaning that the service would have to either educate its sailors on its own or radically change its approach to recruiting. The latter was not a realistic option; such an approach of recruiting and retaining higher-educated individuals simply did not align with numerous other factors involved in enlistment. In particular, those who already possessed a college education had much higher pay expectations than anything the Navy

12 Alfred E. Becker, *Relating the Military: A Public Affairs Perspective of the All-Volunteer Force* (National Defense University, 1983); Deborah Clay-Mendez, *Models of Accession and Retention* (Center for Naval Analyses, 1982); E. K. Eric Gunderson, *Unauthorized Absence, Desertion, and Attrition Rates for First-Term Navy Enlisted: A Twelve Year Perspective* (Naval Health Research Center, 1980); Hone and Utz, *History of the Office of the Chief of Naval Operations*, 329–34; Jim I. Martin et al., *Life Cycle Navy Enlisted Billet Costs—FY78* (Bureau of Naval Personnel, 1978); Robert F. Lockman and Stanley A. Horowitz, *Navy Manpower/Personnel Issues in the 1980s: Progress in 1982 and Plans for the Future* (Center for Naval Analyses, 1983); Roger C. Adams, "An Analysis of the U.S. Navy Enlisted Separation Questionnaire" (master's thesis, Naval Postgraduate School, 1981); Stanley A. Horowitz, ed., *Conference Proceedings: Naval Manpower Research in the 1980s* (Center for Naval Analyses, 1982); Wildenberg, *Origins of Aegis*, 193–202.

would be able to meet short of a commission, effectively maintaining the old policy that a college education was for officers. The service therefore had to continue to depend on recruits whose education beyond high school was wholly provided by the Navy itself in some fashion.¹³



Sailors train on a mockup of an NTDS-equipped CIC at Naval Training Center San Diego. (Mark Jacobsen, *Fifty Years of Research and Development on Point Loma, 1940–1990* [Naval Ocean Systems Center, 1990], 43)

Accordingly, enlistments due to the poor economy in this period skewed toward the less well educated, albeit those in possession of a high school degree, the growth of which had been an unbroken trend since the

13 Directorate for Information Operations, *Selected Manpower Statistics, Fiscal Year 1972*, 42–43, 52–55, 57–59; Directorate for Management Information Operations and Control, *Selected Manpower Statistics, Fiscal Year 1976*, 45–46, 54–55, 57–62; Horowitz, *Conference Proceedings*, 13–19; Janice H. Laurence, *Education Standards for Military Enlistment and the Search for Successful Recruits* (Human Resources Research Organization, 1984), v–vi, 33–41; Stanley F. Halter, “An Examination of the Quality of Current and Future Military Enlisted Personnel” (master’s thesis, Naval Postgraduate School, 1979), 8–10, 49–56.

end of World War II.¹⁴ However, this trend mirrored an increasing emphasis on familial stability by said recruits. While more and more women joined the Navy after 1973, both military-military and military-civilian couples pointed to the hardships of separation and relocation as reasons against reenlistment.¹⁵ These obstacles had not been a particular problem in the pre-World War II volunteer Navy primarily because the fleet of that period was based solely in American waters (with the exception of the Asiatic Fleet, which was a small organization). Between 1945 and 1973, shadow conscripts did not indicate deployment overseas as a detriment to their initial enlistment, as they joined the Navy to avoid the Army and planned to separate at the end of their first term, regardless of other factors. Therefore, it was only after mid-1973 that the Navy was forced to consider familial separation a major retention problem.¹⁶

Familial stability was a serious enough crisis that, by the time of Zumwalt's tenure, it was a known factor in the derailing of promising career officers (who either separated or took non-promotion-track postings to avoid relocation).¹⁷ With the establishment of MCPON and the flurry of enlisted surveys that commenced with Zumwalt and accelerated with the announcement of the impending end of the draft in early 1973, this factor arose as a primary component of career satisfaction. As a result, the support of Navy families became a major factor in Zumwalt's tenure and persisted thereafter.¹⁸ Efforts ranged from a dramatically increased emphasis on Navy personnel support facilities (especially Navy housing, long considered a major problem) to the creation in 1970 of the Navy ombudsman, a volun-

14 Directorate for Information Operations, *Selected Manpower Statistics, Fiscal Year 1972*, 42–43, 52–55, 57–59; Directorate for Management Information Operations and Control, *Selected Manpower Statistics, Fiscal Year 1976*, 45–46, 54–55, 57–62.

15 Chisholm, "Naval Personnel Since 1945," 126–27.

16 Joel Hebert, *Our Greatest Strength: Navy Wives and the Manpower Crisis in the 1970s U.S. Navy* (Naval History and Heritage Command, 2022), v–vi, 14–31.

17 Chisholm, "Naval Personnel Since 1945," 119; Hebert, *Our Greatest Strength*, 14–31.

18 Gloria L. Grace et al., *Career Satisfaction as a Factor Influencing Retention* (System Development Corporation, 1976), 1.1, 5.1–5.9; Hattendorf, *U.S. Naval Strategy in the 1970s*, 17–25.

tary role dedicated to providing counsel to Navy families, directing them to resources, and even simply answering questions.¹⁹

Similarly, the general concept of enlisted career satisfaction received much closer attention beginning with Zumwalt's tenure and continuing to the present day. Improvements included significant increases in pay to bring Navy ratings into closer competition with their civilian counterparts, higher reenlistment bonuses to persuade experienced sailors to remain with the service, a greater enlisted voice in detailing, and career counseling to help sailors play to their strengths and find the most likely path to success in the Navy. In this way, BuPers in particular leveraged its survey work that indicated myriad sources of dissatisfaction to simply ask individual sailors what might work best to keep them in the fleet and then encourage them to act on it.²⁰

It is important to note at this stage that while the Navy was able to be proactive about the above issues once the draft ceased, it also always had to work with or around congressional and DOD funding and support for broader joint personnel programs. In this category, of particular concern to recruiting and retention in this period was the Vietnam-era GI Bill, which ended effective 1 January 1977. Numerous studies from the post-1973 Navy indicated that GI Bill educational benefits—1.5 months of educational assistance after separation for each month served on active duty for up to 45 months—were a major incentive to enlist (although it also served as a disincentive to some, with 10–20 percent of respondents answering that they were less likely to return as they had already maximized their benefits).²¹ The congressional termination of this program left all of the services scrambling for a replacement. The initial DOD-sponsored Veterans Educational Assistance Program (VEAP) proved to be inadequate either as a recruiting or cost-saving tool despite the additional requirement that participants first contribute their own pay, which was then matched two-

19 Hebert, *Our Greatest Strength*, 14–31.

20 Hebert, *Our Greatest Strength*, 14–31.

21 Richard L. Eisenman et al., *An Examination of the Effects of G.I. Bill Educational Benefits on Service Accessions* (Human Resources Research Organization, 1975), iii–vii, 79–82; Thomason, *Retention Costs*, 3.

for-one.²² As a result, Congress established the Educational Assistance Test Program in 1981. This program tested several different variations on VEAP, leading to a total overhaul of the latter program in 1984. The revamp resulted in the Montgomery GI Bill, which provided an incentive to enlist and encouragement to remain with the Navy because it required at least 12 months of service and could also be used for a period of 24 months while on duty.²³

PACE AND SEA

The creation of the Montgomery GI Bill worked together with new Navy-centric educational programs, particularly Tuition Assistance, Navy Campus for Achievement, and the Program for Afloat College Education (PACE), to drive up the education level of the enlisted overall. But they were not prioritized for this purpose. TA, NCFA, and PACE were long-term programs that could only be used by active duty personnel and were therefore intended as recruitment and retention incentives for high-aptitude high school graduates. Additionally, after the surge of educational initiatives in the mid-1970s, the subject was largely ignored in favor of a gradual transformation of enlisted PME.²⁴ While this process was ultimately interrupted by the end of the Cold War, it had a significant, though delayed, impact on the structure of education in the Navy.

The philosophical divide between BuPers and Naval Reactors over education continued through this period until the end of the Cold War. Beyond recognizing its function as a retention incentive, BuPers perceived education only as a stepping stone for a select handful of senior petty offi-

22 Michael R. Thirtle, *Educational Benefits and Officer Commissioning Opportunities Available to U.S. Military Servicemembers* (RAND Corporation, 2001), 49–58; Thomason, *Retention Costs*, 1–3, 22–23.

23 “History of the GI Bill,” Bureau of Naval Personnel, accessed 3 January 2025, <https://www.mynavyhr.navy.mil/Career-Management/Education/GI-Bill/GI-Bill-History/>; Richard L. Fernandez, *Enlistment Effects and Policy Implications of the Educational Assistance Test Program* (RAND Corporation, 1983), v–viii, 72–80; Thirtle, *Educational Benefits*, 49–58; “Montgomery GI Bill Active Duty (MGIB-AD),” U.S. Department of Veterans Affairs, updated 4 January 2025, <https://www.va.gov/education/about-gi-bill-benefits/montgomery-active-duty/>.

24 Francis K. Holian, “Cost Effective Training for Navy Senior Petty Officers” (master’s thesis, Naval Postgraduate School, 1977), 60–76.

cers who might commission as officers.²⁵ In contrast, Naval Reactors under Admiral Rickover continued to see the value of a more general education for its personnel, understanding that broad and theoretical knowledge paired with advanced mathematical learning produced an enlisted force better able to assess and address nuclear reactors and their associated technological systems. Because this kind of advanced education had a narrow applicability outside of Rickover's domain, the educational programs, as well as their underlying philosophy and justification, remained siloed from the rest of the Navy.

The desire of enlisted recruits to learn a trade skill stretches back to the new Navy's shift in recruiting to the inland portions of the United States; in the aftermath of World War II and the original GI Bill, the desirability of an advanced education on the Navy's dime was added to those motivations. As the transition to the all-volunteer force approached, repeated studies identified this latter desire as an increasingly important factor in recruitment.²⁶ Adding to this incentive therefore became a major priority, although the most desirable way of doing so, cost- and retention-wise, was up for debate.²⁷ As postservice benefits like the Vietnam-era GI Bill incentivized separation as soon as the maximum benefits could be obtained (often after only a single enlistment), the Navy took a different tack with those educational policies implemented under Zumwalt and thereafter.²⁸

The most significant educational incentive that the Navy adopted in the 1970s was three-pronged; the largest component was the Navy Tuition

25 Bureau of Naval Personnel, *Navy Enlisted Scientific Education Program*, 4–6.

26 Eisenman et al., *Effects of G.I. Bill Educational Benefits*, iii–vii, 79–82; James K. Arima, *Educational and Training Opportunities as Incentives for Military Service* (Naval Postgraduate School, 1978), ii, 15–19; James R. Hosek et al., *Educational Expectations and Enlistment Decisions* (RAND Corporation, 1986), v–viii, 25–34; Michael W. Brown and W. Thomas Callahan, *The All-Volunteer Navy and the Schools: Recommendations for Integration of Navy Careers into Career Education* (Operations Research, 1973), v–viii, 101–45; Thomason, *Retention Costs*, 1–3, 22–23; William H. Githens and Gerry L. Wilcove, *Relationship Between Navy Off-Duty Educational Programs and Recruiting, Performance, and Retention* (Navy Personnel Research and Development Center, 1977), vii–ix, 5–27.

27 Congressional Research Service, *Military Tuition Assistance Program: Background and Issues* (Congressional Research Service, 2023), 8–11; Holian, “Cost Effective Training,” 60–76.

28 “History of the GI Bill”; Dimitry, “A Descriptive Study,” 1–7; Congressional Research Service, *Military Tuition Assistance Program*, 1–2, 8–11.

Assistance program, created in 1974. While the broader Department of Defense began providing tuition assistance as early as the 1950s, the Navy's TA program initially planned to cover 75 percent of costs for enlisted sailors to attend civilian universities (and today can cover it entirely). These programs were primarily independent study courses, provided by a handful of participating universities working under the guidance of the Navy Campus for Achievement Program, also established in 1974.²⁹ NCFA, today known as the Navy College Program (NCP), was essentially designed as a management system intended to help sailors navigate TA and remote university attendance, coordinating both off-duty and on-duty education programs.³⁰ The latter was primarily provided by the third component of this initiative, the Program for Afloat College Education, to locations unable to correspond readily with parent educational institutions (namely submarines, some surface ships, and remote bases). Piloted in 1973, PACE operated by sending university instructors to these locations to teach courses in person. Together, these programs became known as the primary components of Navy Voluntary Education.³¹

The VOLED initiative primarily aimed at improving retention over the GI Bill recruitment incentive by providing significantly better (and more immediate) monetary support for enlisted sailor education, which could be carried out both on and off duty, depending on location. As with career counseling, the program sought to help sailors find the best solution to their individual strengths and needs and was pitched as a way to aid in advancement through the ranks. The PACE program was also a major advantage and a shift from previous correspondence-type learning. In 1987, the Navy

29 "NCFA? What's That?," *Navy Campus for Achievement Newsletter* 1, no. 1 (September 1974), <https://www.navycollege.navy.mil/docs/NavyCampusforAchievement1974.pdf>; Office of the Chief of Naval Operations, OPNAV Instruction 1560.45, *Navy College for Achievement (NCFA)* (February 1974).

30 Dimitry, "A Descriptive Study," 1–7; "U.S. Navy's Voluntary Education Program Celebrates 50 Years of Empowering Sailors," Navy College Program, updated 30 December 2024, <https://www.navycollege.navy.mil/ncp-fiftieth-anniversary/>; Office of the Chief of Naval Operations, OPNAV Instruction 1560.45.

31 Susan D. Henson, "Navy Voluntary Education: Your Time, the Navy's Money," *All Hands*, 9 June 2014, <https://allhands.navy.mil/Stories/Display-Story/Article/1839731/navy-voluntary-education/>; Office of the Chief of Naval Operations, OPNAV Instruction 1560.45.

doubled down on remote education with the establishment of PACE II, which relied on technology rather than in-person lectures.³² While not the only educational initiative of the Navy during this period, VOLED was by far the largest and most significant. It was also very clearly an initiative for recruitment and retention first and the betterment of the service second.³³

The focus on education as an incentive did not mean that the Navy was ignorant of the escalating requirements to operate the fleet, owing in part to the continued advancement of technology. On the contrary, it was generally believed that recruiting high-aptitude sailors with the promise of furthering their education would naturally elevate the capabilities of the enlisted as a whole.³⁴ But despite the assertions through the late 1960s that educational initiatives such as ADCOP also aided leadership development, this stated outcome was not clearly reflected either by promotion patterns (which continued to largely depend on time in grade) or by increased devolution of leadership responsibilities to senior and master chief petty officers.³⁵

While the E-8 and E-9 ranks were added to the Navy in 1958 by congressional action, they were seen as highly specialized technicians rather than leaders, and the ranks were regarded primarily as a reenlistment incentive (via pay and additional seniority).³⁶ But increased promotion potential failed to result in a clear effect on retention overall, and even the establishment of MCPON in 1967 did little in the short term to establish the legitimacy of senior and master chiefs as managers. That said, through MCPON, this concern was eventually heard, and in 1979, these ranks were formally designated as mid-level managers by CNO Admiral Thomas B. Hayward. Unfortunately, while some individuals thrived in senior enlisted billets, the vast majority struggled

32 Henson, "Navy Voluntary Education"; "U.S. Navy's Voluntary Education Program Celebrates 50 Years of Empowering Sailors."

33 Arima, *Educational and Training Opportunities*, ii, 15–19; Congressional Research Service, *Military Tuition Assistance Program*, 1–2, 8–11; Dimitry, "A Descriptive Study," 1–7; Hosek et al., *Educational Expectations*, v–viii, 25–34; Githens and Wilcove, *Navy Off-Duty Educational Programs*, vii–ix, 5–27.

34 Dimitry, "A Descriptive Study," 1–7.

35 Tucker, "History of the Chief Petty Officer Grade."

36 Defense Committee on Professional and Technical Compensation, *A Modern Concept*, 1:vii–ix, 43–76; Tucker, "History of the Chief Petty Officer Grade."

because, while proficient at their trades or technical areas, they had little formal instruction in management techniques.³⁷



Students engage with a foreign military guest speaker during a class at the Senior Enlisted Academy, 1 October 1988. (NARA, 6486595)

To help Navy E-8s and E-9s meet their new challenges, the Navy established the Senior Enlisted Academy on 14 September 1981. This program would eventually prove to be the first high-level divergence of the concept of PME from general education and training for the Navy’s enlisted.³⁸ While it was hoped that education in general would make sailors better at their jobs, no previous major initiative had blended what could

37 “About Senior Enlisted Academy,” Naval Education and Training Command, accessed 3 January 2025, <https://www.netc.navy.mil/Commands/Senior-Enlisted-Academy/About-Us/About/>; Thomas B. Hayward, *The Reminiscences of Admiral Thomas B. Hayward, U.S. Navy (Retired)*, ed. Paul Stillwell (Naval Institute Press, 2009), 406.

38 While other advanced courses existed (such as the Chief Petty Officer Academy), they were—perhaps unfairly—regarded as little more than advanced boot camp at the time. Lon Cabot, “Senior Enlisted Academy: Educating Tomorrow’s Managers,” *All Hands*, August 1982, 3; “About Senior Enlisted Academy,” Naval Education and Training command, 14 September 2024, <https://www.netc.navy.mil/Commands/Senior-Enlisted-Academy/About-Us/About/>.

be defined as training—that is, physical leadership and communications courses—with more general education on subjects like national security. This process was not an instant success or even a priority until the second decade of the twenty-first century, but it nevertheless clearly delineated enlisted PME as unique from previous educational efforts. It additionally underlined the limits of what sort of on-duty educational training was seen as necessary or desirable for the efficient operation of the fleet. The answer, through the end of the Cold War, was “not much.”³⁹

CONCLUSION

While Navy educational initiatives exploded in the aftermath of the transition to the AVF, virtually all of these programs were intended as efforts for recruitment and retention first and for the improvement of fleet operating efficiency only second. Fortunately for the Navy, while computerization of the fleet continued to raise the educational threshold for enlisted sailors throughout the second half of the Cold War, the rising tide of educational standards of the United States as a whole lifted all boats, largely covering up these issues. Nearly all recruits of the 1980s had high school degrees, which made the Navy’s advanced education programs more desirable to them. The incentive approach of VOLED was therefore enough to meet the needs of the fleet for the time being.⁴⁰ However, with the end of the Cold War, the Navy would soon find itself shifting to a much more homogenous fleet based around the Aegis Combat System, continuing the trend of devolving the decision-making chain onto more junior officers and enlisted personnel.⁴¹ Simultaneously, the loss of a pacing adversary with the Soviet Union’s collapse dramatically complicated the geopolitical environment within which the Navy operated, requiring broader knowledge and capabilities to deal with a disorienting succession of adversaries

39 Crist, *Winds of Change*, 92; “Senior Enlisted Academy Opens,” *All Hands*, September 1981, 22.

40 Arima, *Educational and Training Opportunities*, ii, 15–19; Congressional Research Service, *Military Tuition Assistance Program*, 1–2, 8–11; Dimitry, “A Descriptive Study,” 1–7; Directorate for Management Information Operations and Control, *Selected Manpower Statistics, Fiscal Year 1976*, 45–46, 54–55, 57–62; Hosek et al., *Educational Expectations*, v–viii, 25–34; Githens and Wilcove, *Navy Off-Duty Educational Programs*, vii–ix, 5–27.

41 Dimitry, “A Descriptive Study,” 1–7; Wolters, *Information at Sea*, 170–221.

and operating environments.⁴² The tipping point for the Navy's attitude toward the necessity of advanced enlisted education would therefore arrive as the dust of the post-Cold War downsizing settled.

42 Christopher Ford and David Rosenberg, *The Admiral's Advantage: U.S. Navy Operational Intelligence in World War II and the Cold War* (Naval Institute Press, 2005), 109–13.

4

AT HISTORY'S END AND THE GLOBAL WAR ON TERRORISM, 1991–2015

The abrupt end of the Cold War with the Soviet Union's dissolution in 1991 led to a dramatic, decade-long slump in the defense budget and a corresponding steep contraction in the number of personnel authorized to remain in the Navy, from a peak of 526,000 enlisted in 1989 to 315,000 in 2000.¹ Efforts to preserve as much of the fleet as possible left little of the budget for the service's burgeoning enlisted education and welfare efforts, and this lack of funding combined with a series of high-profile public embarrassments only amplified the Navy's persistent recruitment and retention problems. While the budgetary decline was reversed in the aftermath of the 9/11 attacks and with the commencement of the global war on terrorism in 2001, the increasing opportunity cost of military service and brisk operational tempo led to a decline in enlisted numbers below 270,000 by 2010.² Those sailors who remained faced a steadily growing workload, amplifying the importance of their individual education level. The need to produce and retain those individuals forced a renewed commitment to general personnel welfare near the end of the first decade of the twenty-first century despite continued funding difficulties. The primary result of these efforts for education was a gradually increasing emphasis on making resources like the Program for Afloat College Education more widely available to the best of the fleet and the ultimate recognition of the criticality of advanced enlisted education to effective fleet operations.

1 "U.S. Navy Personnel Strength."

2 "U.S. Navy Personnel Strength."

THE PEACE DIVIDEND AND GWOT

While the Navy's battle force and personnel numbers did not show it, the service's fortunes began turning downward again as early as 1986 with the passage of the Goldwater-Nichols Act. The final step in the removal of strategic and operational force control from the service chiefs, which had begun with defense unification in the National Security Act of 1947, this legislation chiefly empowered the Secretary of Defense and chairman of the Joint Chiefs of Staff. It also empowered the regional combatant commands to control the operational level of war, effectively meaning that the next three decades of force planning would be based on a compilation of regional assessments rather than a centralized global perspective. This decentralization of decision-making effectively signaled the end of the CNO's ability to develop an independent service strategy in favor of planning at the joint level, immensely complicating each service branch's ability to calculate its own personnel requirements and thereby formulate effective policy. Combined with sequestration beginning that same year due to congressional budgetary battles, the Navy was already facing force reductions even before the Cold War abruptly ended.³

The Soviet Union's sudden collapse in 1991 accelerated political demands for major budgetary savings in the form of a peace dividend, an ill-defined reduction in military expenditures (and in theory overall government expenses) that would leave the United States with only those forces necessary to protect its interests abroad. What those interests were, and therefore what U.S. forces needed to preserve, was a matter for intense debate in the early 1990s. Reduction in force proposals ranged from Chairman of the Joint Chiefs of Staff General Colin Powell's 25 percent in his Base Force proposal (1990) to Secretary of Defense Les Aspin's 33 percent in his Bottom-Up Review (1992).⁴ The reality would go even further, with the Navy reduced from 546 ships and 583,000 total personnel in 1990

3 Christopher D. Holmes and Francis J. Park, *History of Joint Staff Strategic Planning, 1949–2020* (Joint History and Research Office, 2021), 7; Steven T. Wills, *Strategy Shelved: The Collapse of Cold War Naval Strategic Planning* (Naval Institute Press, 2021) 1–2, 105–39.

4 Lorna S. Jaffe, *The Development of the Base Force, 1989–1992* (Joint History Office, 1993), 12; Wills, *Strategy Shelved*, 122–25.

to 317 ships and 378,000 personnel by 2000.⁵ While the events of Operation Desert Shield and Desert Storm briefly paused these drawdowns, they failed to paint the Navy in a particularly positive light because of the inapplicability of the Navy's Cold War strategy (unlike that of the Army and Air Force) and both real and perceived failures in joint cooperation. These operations ultimately only contributed to a popular image of a Navy without strategic direction or purpose in the absence of its long-expected adversary.⁶



The modernized World War II-era battleship *Missouri* (BB-63) lies at anchor in the Arabian Gulf region during Operation Desert Storm. Legacy platforms like the battleships were retired for good after the Cold War, homogenizing the fleet around modern platforms. (NARA, 648115)

Making matters significantly worse, the Navy endured a series of major public relations crises throughout the 1990s, all of which contributed to recruitment and retention problems. These included the 1990 cancellation of the A-12 Avenger II attack aircraft following accusations of corruption

5 “U.S. Navy Personnel Strength”; Peter M. Swartz and Michael C. Markowitz, *Organizing OPNAV (1970–2009)* (Center for Naval Analyses, 2010), 48, 72.

6 Wills, *Strategy Shelved*, 140–95.

(leaving the service with a major capability gap), three contentious investigations of the cause of a 1989 explosion in the number 2 gun turret of USS *Iowa* (BB-61), the 1991 sexual assault and harassment of a large number of Navy personnel at the annual Tailhook Association symposium in Las Vegas (and subsequent cover-up of the presence of senior officers, including CNO Frank B. Kelso II himself), and the 1996 suicide of CNO Jeremy M. Boorda—the first “mustang” CNO—after accusations of stolen valor.⁷ Combined, these events left the service scrambling to address underlying issues, repair its public (and internal command) image, and preserve its budget and remaining assets. Due to all of these factors, the Navy’s budget plunged from \$211 billion in FY 1991 to \$158 billion in 2001.⁸

The events leading to the 2001 commencement of the global war on terrorism stabilized and then reversed this budgetary trend but did not provide for the expansion of the fleet. While the 2000 bombing of USS *Cole* (DDG-67) in Yemen’s Aden Harbor began a serious reassessment of potential threats to the Navy and overseas U.S. interests, the 11 September 2001 attacks led directly to the initiation of large-scale joint military operations in Afghanistan. At the time, the country was an isolated location far from available American bases, making the Navy a critical launching platform for ground operations. This Navy capability also proved critical during the initial invasion of Iraq in 2003, for which few regional allies were willing to grant access to U.S. forces.⁹ With these two experiences in mind, the Navy, under the guidance of CNO Vernon E. Clark, seized upon the opportunity to create a new justification for its existence and

7 The need to replace the A-12 would result in both the F/A-18E/F Super Hornet (which had little in common with its namesake, the F/A-18A/C Hornet) and the stopgap F-14 “Bombcat” equipped with a LANTIRN targeting pod. Hone and Utz, *History of the Office of the Chief of Naval Operations*, 385–87, 390, 413, 415, 422; Michael G. Mullen, “Admiral Mike Mullen Oral History Interviews,” interview by John Sherwood and Tyler Pitrof, *Preble Hall Podcast*, 2022–2023, <https://www.usna.edu/Museum/PrebleHall/index.php>; Samuel J. Cox, “H-029-4: The USS *Iowa* Tragedy,” Naval History and Heritage Command, last modified 3 May, 2019, <https://www.history.navy.mil/about-us/leadership/director/directors-corner/h-grams/h-gram-029/h-029-4.html>.

8 These totals given in FY 2023 constant dollars. Office of the Under Secretary of Defense (Comptroller), *National Defense Budget Estimates for FY 2023* (Department of Defense, July 2022), 100–101.

9 Hone and Utz, *History of the Office of the Chief of Naval Operations*, 448–52.

expansion by reorienting itself for operations in the littorals. Without an obvious blue-water peer competitor, the service would double down on its role as a source of support for the joint force ashore with platforms like the rapidly developed littoral combat ship (LCS).¹⁰ The Navy also further embraced its role as a member of the joint force by making heavy use of the Individual Augmentee (IA) program, which sent individual enlisted sailors of high-demand ratings, like intelligence specialists, ashore in support roles, especially as personnel requirements in Iraq and Afghanistan rose.¹¹

While the Navy's budget eventually rebounded to \$223 billion by FY 2011, most of the additional funding went to sustaining active operations of the global war on terrorism.¹² Compounding the stress on the force, the pressures of these activities on top of the service's existing humanitarian, peacekeeping, physical presence, and antipiracy obligations meant that warships were increasingly forced to alter their maintenance and overhaul patterns, lengthening deployments and wearing out material—and people—much faster than originally anticipated.¹³ As a result, the fleet continued to shrink and enlisted attrition grew dramatically, especially as the opportunity cost of naval service in terms of early career pay and education increased.¹⁴ Attempts to re-prioritize blue-water combat began as early as 2005, but a shrinking force structure, budgetary pressures, and ongoing operations effectively locked the Navy into a downward spiral. This cycle could be

10 Although LCS was born from the “Streetfighter” concept developed independently by a few naval officers, the program itself was actually an initiative from the Office of the Secretary of Defense, not the Navy itself. Hone and Utz, *History of the Office of the Chief of Naval Operations*, 448–52; Robert O. Work, *The Littoral Combat Ship: How We Got Here, and Why* (Office of the Under Secretary of the Navy, 2014), 1–5.

11 Hone and Utz, *History of the Office of the Chief of Naval Operations*, 473, 490–91; Mullen, “Admiral Mike Mullen Oral History Interviews.”

12 This rebound began immediately; the budget increased from \$162 billion in FY 2002 to \$193 billion in FY 2003. Office of the Under Secretary of Defense (Comptroller), *National Budget Estimates for FY 2023*, 100–101; Hone and Utz, *History of the Office of the Chief of Naval Operations*, 444.

13 Hone and Utz, *History of the Office of the Chief of Naval Operations*, 472–73.

14 Beth J. Asch et al., *An Analysis of Pay for Enlisted Personnel* (RAND Corporation, 2001), v–x, 5–6, 8–9, 13–16, 21–38, 40; Congressional Budget Office, *Educational Attainment and Compensation of Enlisted Personnel* (Congressional Budget Office, 2004), 1–5, 17; Diana Levy et al., *Expanding Enlisted Lateral Entry: Options and Feasibility* (RAND Corporation, 2004), xi–xvii, 37–39; Swartz and Markowitz, *Organizing OPNAV*, 72; Thirtle, *Educational Benefits*, xi–xix, 42, 63, 70–71.

broken only once large-scale GWOT operations ended, permitting the service both time and budgetary space to retrench and reform.¹⁵

THE OPPORTUNITY COST OF SERVICE

The period of 1990–2015 is unique in American naval history because a time of relative peace, with its customary deep budget cuts and conforming personnel reductions, was followed by an era of conflict that featured budgetary growth but continued decreases in available personnel.¹⁶ The reasons for this break in pattern are numerous, but included difficulty in recruitment and retention due to the rapidly escalating opportunity cost of forgoing college education in favor of military service, the mounting financial burden of personnel programs limiting what the Navy could afford, and a Congress focused on cutting the defense budget (the peace dividend) or at times unwilling to pass a budget at all. As such, the Navy conducted a slew of studies on how best to economize personnel support programs, and thereby get the best bang for the service's buck.¹⁷

None of these trends were apparent at the beginning of the 1990s. Instead, the service spent the majority of that decade concerned primarily with what it could preserve rather than who it could recruit. This focus meant a series of difficult decisions for the Bureau of Naval Personnel regarding what personnel it would keep as the total authorized by Congress gradually decreased.¹⁸ The downsizing led to large numbers of otherwise

15 Hone and Utz, *History of the Office of the Chief of Naval Operations*, 524–25.

16 “U.S. Navy Personnel Strength”; Office of the Under Secretary of Defense (Comptroller), *National Budget Estimates for FY 2023*, 100–101.

17 Congressional Budget Office, *Educational Attainment*, 1–5, 17; Congressional Research Service, *Military Tuition Assistance Program*, 8–11; Douglas L. Barnard and Elizabeth F. Zardeskas, “Voluntary Education of Enlisted Service Members: An Analysis of Program Effects on Retention and Other Outcome Measures” (master’s thesis, Naval Postgraduate School, 2007), 1–4, 42–44; Gerry L. Wilcove, *Navy Personnel Survey 1990: Analysis of Educational and Training Issues* (Navy Personnel Research and Development Center, 1992), vii–viii, 4–11; Jaffe, *Development of the Base Force*, 12; Seryoung C. Park, “Effectiveness of Voluntary Education in Operational Environments: An Analysis of the Navy College Program for Afloat College Education (NCPACE)” (master’s thesis, Naval Postgraduate School, 2011), 57–59; Stephen Mehay and Elda Pema, *The Impact of the Navy’s Tuition Assistance Program on the Retention and Promotion of First-Term Sailors* (Naval Postgraduate School, 2009), ix–xiv, 41–48.

18 Holmes and Park, *History of Joint Staff Strategic Planning*, 7–10; Jaffe, *Development of the Base Force*, 12–15; Mullen, “Admiral Mike Mullen Oral History Interviews.”

highly qualified individuals having no choice but to separate. To aid in this decision-making process, the Navy (via BuPers, the Center for Naval Analyses, the Naval Postgraduate School, and the broader work of the Office of the Secretary of Defense) concerned itself with assessing which personnel had the highest likelihood of career success in the Navy, based on factors ranging from education levels at the time of enlistment to family status.¹⁹ While not intentional, this forced selectivity drove up the average educational level of those remaining in the service, and again obfuscated the escalating educational requirements for naval personnel as a whole.

This pickiness became the new normal by the first decade of the twenty-first century, but the terms of service simultaneously underwent dramatic change reflective of the broader United States. In 1993, Secretary of Defense Les Aspin rescinded the World War II-era combat exclusion policy, permitting women to serve permanently in virtually all aviation roles (but not aboard submarines or some warships; an executive order nominally opened the latter to women later that year).²⁰ While women were still excluded from dedicated ground combat units until 2013, this fundamental shift expanded the way that the Navy viewed and used its available personnel.²¹

These simultaneously broad and narrow policies effectively created a catch-all intended to enlist and retain only the most capable of American high school graduates, regardless of other cultural factors. This approach to recruiting was at least partly the result of the increasing difficulty of retaining those whom the Navy enticed to enlist. As the educational require-

19 Some specific examples from the Navy are telling in their broad subjects. Charles H. Cory et al., *Relationship of Mental and Educational Levels of Navy Male Enlisted Personnel to Job Outcome Criteria* (Navy Personnel Research and Development Center, 1991), vii–ix, 7–24; Dale N. Glaser and Joyce Shettel Dutcher, *Quality of Life: Literature Review and Recommendations for Measurements of Military Outcomes* (Navy Personnel Research and Development Center, 1994), vii–viii, 24–25; Wilcove, *Navy Personnel Survey 1990*, vii–viii, 4–11.

20 Chisholm, “Naval Personnel Since 1945,” 126–28; Edward J. Marolda, “The Social History of the U.S. Navy, 1945–Present: A Historiographical Essay,” in Crawford, *Needs and Opportunities*, 253–54; Hone and Utz, *History of the Office of the Chief of Naval Operations*, 387; Mullen, “Admiral Mike Mullen Oral History Interviews.”

21 Brian M. Hart, “An Analysis of the Navy’s Voluntary Education” (master’s thesis, Naval Postgraduate School, 2007), 73–90; Mullen, “Admiral Mike Mullen Oral History Interviews.”

ments for enlisted sailors continued to increase in the late 1980s and early 1990s, pay and benefits remained relatively static. The attention of the Navy and Department of Defense was fixed on sequestration and the peace dividend—cutting the defense budget after the Cold War’s end. During this same period, the average number of high school graduates going to college trended steadily upward, jumping from 47 percent in 1977 to 67 percent by 1997.²² As the career compensation prospects of these college grads steadily improved, going to college straight from high school became increasingly appealing. This shift had the corresponding effect of rendering the recruitment of high-aptitude high school graduates for naval service increasingly difficult. In this light, it seems that the service had little choice but to expand its range of enlistees as much as possible.²³

As with previous decades, however, retaining these individuals for more than one enlistment (seen as particularly important after the Navy had invested heavily in them) proved difficult thanks to conflicting sources of retention problems. While most of these topics are familiar from the previous chapter’s discussion of CNO Zumwalt’s tenure, between 1990 and 2015, enlisted sailors’ need for familial support and desire for self-betterment collided with budgetary limits and the Individual Augmentee program. In the former category, the service pursued such initiatives as spouse support programs (like job-finding aids and childcare), as well as improved base housing and support facilities at several points in the 1970s and 1980s. Yet these same areas appeared repeatedly in-service surveys as major shortcomings in the 1990s, often because those whom the programs targeted were not aware that these initiatives existed.²⁴ As the Navy’s budgetary drain intensified in the early 1990s, feedback revealing

22 Asch et al., *Pay for Enlisted Personnel*, v–x, 5–6, 8–9, 13–16, 21–38, 40; Hosek et al., *Educational Expectations*, v–viii, 25–34.

23 Asch et al., *Pay for Enlisted Personnel*, v–x, 5–6, 8–9, 13–16, 21–38, 40; Congressional Budget Office, *Educational Attainment*, 1–5, 17; Hosek et al., *Educational Expectations*, v–viii, 25–34; Thirtle, *Educational Benefits*, xi–xix, 42, 63, 70–71.

24 Glaser and Dutcher, *Quality of Life*, vii–viii, 24–25; Peter Tiemeyer et al., *Financial Management Problems Among Enlisted Personnel* (RAND Corporation, 1999), 18–22; Rita Bureika et al., *Effective Strategies to Assist Spouses of Junior Enlisted Members with Employment: Analysis of the 1997 Survey of Spouses of Enlisted Personnel* (Defense Manpower Data Center, 1999), iii–v, 165–67.

the underutilization of support programs caused the service to take a hard look at the \$2 billion (1994 dollars) spent on quality-of-life initiatives annually, although few actual reductions took place.²⁵

With the beginning of the global war on terrorism, the perceived need for better support programs grew dramatically due to heavy use of the Individual Augmentee program. While IA had existed before GWOT, the insurgency crisis in Iraq that began around 2005 and the ensuing troop surge left the Army and Marine Corps scrambling for manpower and resulted in the deployment of unprecedented numbers of Navy augmentees ashore.²⁶ As a majority of these individuals were completely cut off from their official chain of command and support networks during deployment, they and their families faced hardships that had theoretically been recognized and dealt with as far back as Zumwalt's reforms of the early 1970s. Additionally, these deployments represented a significant additional drain on Navy resources, impacting the service's ability to not only fund its normal activities at sea but also train and support personnel for its Title 10 responsibilities for high-end combat on or from the sea.²⁷ In short, the scale of operations during GWOT, with the relative manpower shortages of all the services, was not sustainable, but there was little that could be done as long as the high tempo of operations continued unabated through 2015. This resulted in the general stagnation of welfare and support programs, which enlisted sailors experienced significant difficulty in engaging with

25 These same surveys revealed that the only reliable indicator for how likely a sailor was to reenlist was a stated intent to reenlist. Glaser and Dutcher, *Quality of Life*, vii–viii, 24–25; Michael J. Schwerin et al., *Navy Quality of Life (QOL) Program Contributions to Readiness and Career Intentions*, vol. 2, *Pilot Study Results* (Navy Personnel Research, Studies, and Technology Department, 2002), vii–viii, 25–27.

26 Bradley Martin et al., *Impact of Individual Augmentation Policy on Navy Reserve Force Readiness* (RAND Corporation, 2023), 1–2; Ronald O'Rourke, *Navy Irregular Warfare and Counterterrorism Operations: Background and Issues for Congress* (Congressional Research Service, 2019), 2.

27 Martin et al., *Individual Augmentation Policy*, 1–2; O'Rourke, *Navy Irregular Warfare*, 2.

due to the degradation of regular and predictable deployment cycles, and a marked uptick in enlisted attrition and difficulty recruiting.²⁸

A QUIET REVOLUTION IN LEARNING?

The Navy's education programs were not exempt from the difficulties that plagued the service throughout the 1990s and 2000s—in fact, they became a source of budgetary contention because of conflicting data on their overall effectiveness. Although there was little doubt by this stage that the opportunity for an advanced education while in service was a major incentive for enlistment, there was no agreement whatsoever on the actual impact of these programs on retention.²⁹ Additionally, within what *could* be observed with retention, precisely which programs were primarily responsible for what trends was difficult to track accurately, particularly due to the decentralized nature of Navy VOLED. Finally, with the bulk of the Navy's available personnel attention firmly focused on what to preserve, there was little budgetary or legislative appetite for expanding the nascent senior-enlisted PME concept begun in the 1980s and anchored by the SEA. The net result of these factors was that no new major educational programs began between 1990 and 2010, but the Navy's top enlisted sailors made heavier use of existing VOLED programs in their efforts to offset the opportunity cost of joining the service. The accessibility of VOLED programs was in turn aided by the rapid advancement of remote-learning technology.³⁰

28 Asch et al., *Pay for Enlisted Personnel*, v-x, 5-6, 8-9, 13-16, 21-38, 40; Congressional Budget Office, *Educational Attainment*, 1-5, 17; James M. Carroll, "Study of Navy Enlisted Attrition: Race, Ethnicity, and Type of Occupation" (master's thesis, Naval Postgraduate School, 2008), 1-5, 69-81; Levy et al., *Expanding Enlisted Lateral Entry*, xi-xvii, 37-39; Thirtle, *Educational Benefits*, xi-xix, 42, 63, 70-71.

29 Barnard and Zardeskas, "Voluntary Education," 1-4, 42-44; Congressional Budget Office, *Educational Attainment*, 1-5, 17; Congressional Research Service, *Military Tuition Assistance Program*, 8-11; Mehay and Pema, *Tuition Assistance Program*, ix-xiv, 41-48; Wilcove, *Navy Personnel Survey 1990*, vii-viii, 4-11; Park, "Voluntary Education in Operational Environments," 57-59.

30 There was a general effort to reduce costs late in this period (after 2007) by clamping down on broad use of VOLED programs by the general population of sailors in favor of making resources more readily available to those judged the "best." This seems to have had mixed results, and the policy was not maintained. Peggy A. Golfín, *The Effect of Tuition Assistance and the Navy College Program for Afloat College Education on Enlisted Retention and Advancement* (Center for Naval Analyses, 2017), iii-vi, 61-63; Roy M. Maddocks Jr., *Developing Combatant Command Senior Enlisted Leaders* (U.S. Naval War College, 2006), 1-16.

One of the primary effects of the Navy's focus on personnel welfare after 1973 was a dramatic increase in the proportion of the overall budget that had to be allocated to personnel and personnel programs like VOLED, which was as much as 56 percent of the total DOD budget in 1978, including retiree benefits.³¹ With the budget crunch of the 1990s and resultant scramble to preserve as many assets as possible, every program—including Navy education—got a serious look by the organizations ultimately responsible for them. The resulting studies indicated that by 1992, close to one-third of all enlisted personnel made use of these programs, and that first-time enlistees who completed their courses were demonstrably more likely to be promoted and have successful careers in the Navy (although this latter conclusion was challenged as correlation for good sailors, not causation). Similarly, 11 percent of those in the E-7 to E-9 ranks possessed at least a two-year (associate's) degree, and just under 10 percent a four-year (bachelor's) degree by 1990.³² VOLED at least seems to have had a broad *appeal* during this period and was likely worth the Navy's investment on those grounds.

Unfortunately for the service, by the 1990s, the provision of an advanced education, while central to recruitment, was not necessarily a positive factor in retention. According to regular personnel surveys conducted by the Navy, this was because the opportunity to pursue a degree had effectively become part of the deal of enlisting, and in fact, the Navy recruited heavily on these grounds throughout the 1990s in response to its personnel research of the previous decade. But as was the case with Vietnam-era GI Bill in the 1970s, 1990s research indicated that enlistees were more likely to separate after taking advantage of the Navy's educational programs, regardless of their

31 Martin et al., *Life Cycle Navy Enlisted Billet Costs—FY78*, 1; At the time of writing, available data reports that personnel programs total roughly a quarter of the present-day Navy budget without including retiree benefits. Deputy Assistant Secretary of the Navy (Budget), *Highlights of the Department of the Navy FY 2025 Budget* (Office of the Secretary of the Navy, 2024).

32 Mary A. Quenette et al., *Navy Personnel Survey (NPS) 1990 Survey Report: Statistical Tables*, vol. 1, *Enlisted Personnel* (Navy Personnel Research and Development Center, 1991), 10, 131; Mary A. Quenette et al., *Navy Personnel Survey (NPS) 1990 Survey Report: Graphical Representations*, vol. 3, *Enlisted Personnel* (Navy Personnel Research and Development Center, 1991), 8, 94; Wilcove, *Navy Personnel Survey 1990*, vii–viii, 4–11.

actual success as a sailor.³³ This trend continued through the late 2000s.³⁴ In order to remain a competitive job option for high-aptitude high school graduates in a country where a college education was growing increasingly desirable, the Navy had effectively entered into the practice of recruiting fresh enlistees with the full expectation that the best of them would not reenlist after receiving their in-service education benefits. The service had become too effective at preparing these high-flying individuals for the civilian job market, but had little choice if it was to compete evenly for the high-aptitude enlistees it required.³⁵

As has been detailed throughout this study, one of the major trends experienced by the Navy in the modern era has been the growing complexity of naval technology continually pushing up the educational requirements for enlisted sailors to do their job effectively. Especially after World War II, increasingly sophisticated weapons, sensors, and computers have gradually distributed the decision-making process aboard ship to junior officers and sailors, making the aptitude of every individual a critical factor.³⁶ With the end of the Cold War came the demand for a peace dividend, and the Navy was forced to retire warships at a rapid pace to comply. Few new warship classes were produced during this time, making those that were—particularly the large-scale addition of *Arleigh Burke*-class, Aegis-equipped guided missile destroyers (DDGs)—all the more significant and a larger proportion of the fleet. In short, the retirement of ships, aircraft, and submarines not only reduced the overall number of hulls in service but also homogenized

33 Glaser and Dutcher, *Quality of Life*, vii–viii, 24–25; Quenette et al., *NPS 1990 Survey Report*, 1:10, 131; Quenette et al., *NPS 1990 Survey Report*, 3:8, 94; Wilcove, *Navy Personnel Survey 1990*, vii–viii, 4–11.

34 Asch et al., *Pay for Enlisted Personnel*, v–x, 5–6, 8–9, 13–16, 21–38, 40; Congressional Budget Office, *Educational Attainment*, 1–5, 17; Golfin, *Tuition Assistance*, iii–vi, 61–63; Levy et al., *Expanding Enlisted Lateral Entry*, xi–xvii, 37–39.

35 Asch et al., *Pay for Enlisted Personnel*, v–x, 5–6, 8–9, 13–16, 21–38, 40; Barnard and Zardeskas, “Voluntary Education,” 1–4, 42–44; Congressional Budget Office, *Educational Attainment*, 1–5, 17; Congressional Research Service, *Military Tuition Assistance Program*, 8–11; Golfin, *Tuition Assistance*, iii–vi, 61–63; Hart, “An Analysis of the Navy’s Voluntary Education,” 1–7, 95–102; Levy et al., *Expanding Enlisted Lateral Entry*, xi–xvii, 37–39; Mehay and Pema, *Tuition Assistance Program*, ix–xiv, 41–48; Park, “Voluntary Education in Operational Environments,” 57–59; Thirtle, *Educational Benefits*, xi–xix, 42, 63, 70–71.

36 Dimitry, “A Descriptive Study,” 1–7; Wolters, *Information at Sea*, 170–221.

ships and systems to the newest, most sophisticated technology. The simultaneous decline of overall personnel numbers (and the expectation that newer ships could carry reduced crews thanks to their advanced systems) further amplified the need for better-educated sailors.³⁷



Crewmembers at their stations in the CIC of *Vincennes* (CG-49) in 1989. The addition of Aegis Combat System–equipped vessels to the U.S. Navy streamlined data processing but raised the educational bar for sailors. (NARA, 6443924)

The necessity to staff an increasing proportion of modern warships helped the Navy recognize how critical sailor education had become to operational effectiveness. Numerous studies from 2001 on this subject (particularly originating with RAND Corporation) led to a flurry of theses and papers from the Naval Postgraduate School all proposing reforms to VOLED or entirely new approaches to retaining the fleet’s skilled manpower. But none were able to provide workable large-scale solutions due to either the continuing budget crunch (now featuring the maintenance

37 Swartz and Markowitz, *Organizing OPNAV*, 48, 72.

of active GWOT operations) or because so many individual educational initiatives persisted. In this latter area, the siloed nature of the Navy's educational programs of the previous four decades made any streamlining approach a frustrating exercise in combating red tape, especially since none of these programs had an educational threshold end goal; they were merely required to exist as an incentive.³⁸

Despite these difficulties, enlisted education in the Navy continued to evolve in this period; specifically, a number of changes to the basic VOLED program were carried out in the name of broader accessibility. The PACE II (remote-learning) program that began in 1987 was combined in 1995 with PACE I (the original instructor-led educational program for remote locations). Thereafter known as the Navy College Program for Afloat College Education (NCPACE), it was made available to ships in the yard and on local operations. The overall management system known as NCFE was renamed the Navy College Program in 2000, and its facilities were extensively modernized. Despite budgetary difficulties, these changes allowed the NCP to reach an ever-increasing number of enlisted sailors throughout the 1990s and GWOT, and as computer technology advanced, so too did the utility and popularity of remote learning. But these programs continued as largely low-visibility general education courses intended as a service incentive, not directly geared toward degrees in demand by the modern Navy.³⁹ Aside from Navy VOLED accessibility, there were no other major developments in Navy educational or PME standards between 1990 and 2015, as these programs and requirements took a back seat first to budget cuts

38 Asch et al., *Pay for Enlisted Personnel*, v-x, 5-6, 8-9, 13-16, 21-38, 40; Congressional Budget Office, *The Warrant Officer Ranks: Adding Flexibility to Military Personnel Management* (Congressional Budget Office, 2002), 1-3, 43-52; Hart, "An Analysis of the Navy's Voluntary Education," 1-7, 95-102; Levy et al., *Expanding Enlisted Lateral Entry*, xi-xvii, 37-39; Mehay and Pema, *Tuition Assistance Program*, ix-xiv, 41-48; Park, "Voluntary Education in Operational Environments," 57-59; Thirtle, *Educational Benefits*, xi-xix, 42, 63, 70-71.

39 Christopher B. Veenhuis, "Comparative Research of Navy Voluntary Education at Operational Commands" (master's thesis, Naval Postgraduate School, 2017), 1-4, 43-49; Hart, "An Analysis of the Navy's Voluntary Education," 4-8; Henson, "Navy Voluntary Education"; "U.S. Navy's Voluntary Education Program Celebrates 50 Years of Empowering Sailors"; Office of the Chief of Naval Operations, OPNAV Instruction 1500.77A, *Learning and Development Roadmap for Enlisted Sailors* (April 2017), 1.

in the 1990s, then to active operations during the GWOT. For example, while the SEA persisted through these lean years, it was never made a mandatory requirement for E-8s or E-9s in part due to the general lack of emphasis placed on enlisted programs of this type.⁴⁰ This particular shortcoming attracted higher attention from the Naval War College beginning in the mid-2000s, but program development took time and continued to lag considerably behind that available to officers, despite both officer and enlisted PME development programs being initiated in the early 1980s.⁴¹



An NCPACE professor teaches an algebra class aboard *Donald Cook* (DDG-75) while the ship is deployed to Rota, Spain, in November 2017. (U.S. Navy photograph, 171103-N-FP878-007)

40 The optional nature of the SEA would ultimately change only in FY 2026. Bureau of Naval Personnel, “Senior Enlisted Academy Update,” *Sailor to Sailor* (September 2023), https://media.defense.gov/2023/Sep/29/2003311299/-1/-1/0/2309_CNP_S2S_FINAL.PDF; Richard J. Cheeseman Jr., “United States Navy Senior Enlisted Academy Update,” NAVADMIN 217/23, Bureau of Naval Personnel, 14 September 2023, https://www.mynavyhr.navy.mil/Portals/55/Messages/NAVADMIN/NAV2023/NAV23217.txt?ver=yytFXF_MaPqUx8amD8GVlw%3d%3d.

41 Maddocks, *Developing Combatant Command Senior Enlisted Leaders*, 1–16.

CONCLUSION

If the peace dividend and the global war on terrorism significantly decreased the size of the Navy between 1990 and 2015, these circumstances also kept the expectations on the service high. This “doing more with less” mentality appeared publicly appropriate for a service with no challengers to its supremacy at sea, but pushed the Navy into a reactionary posture and led to a number of compromises in the name of economy. The single largest effect was the absorption of a disproportionate amount of the Navy’s budget by active operations after 2001, which left little for dealing with anything else. The Navy’s education and PME programs, among others, were victims of this state of affairs. While educational programs under the VOLED umbrella managed to avoid large-scale cuts due to their critical importance to recruitment, they expanded only in their ability to help deliver virtual or remote learning. This growth was enough to reach a significant number of sailors, a critical effort in light of the ceaseless march of technological sophistication in the fleet. That said, those who took advantage of these voluntary education programs were unlikely to reenlist owing to the opportunities that their education provided them in the civilian economy. The Navy recognized this problem as early as 2001, but there was little that the service could do to improve the broad educational standards of its sailors as long as high-tempo operations continued. Nevertheless, the service finally acknowledged that an advanced education was not just a good incentive for enlistment but was even more critical for effective fleet operations in the information era. Dramatic changes to enlisted education were therefore necessary.

5

RETURN TO MULTIPOLARITY, 2015–PRESENT

As the focus of the U.S. military has shifted from power projection to planning for high-intensity combat with a peer competitor, the one constant across all branches remains the challenge of recruitment and retention. But this shift in planning priorities *has* produced a new perspective on education and training. With technology having transformed combat at sea since the last time the Navy fought an opponent on even terms, the service has sought solutions to its enduring problems with personnel in the form of improving the general education of all its sailors as an end in itself rather than simply a means to increase enlistment numbers. In pursuit of this goal, the *Education for Seapower* study of 2018 led to the establishment of a new organization for the purpose of general enlistment education, a unique step in the Navy's history. The U.S. Naval Community College (USNCC) has since grown rapidly and, for the first time, holds the potential for tying ratings to educational thresholds, making enlistment a far more competitive choice vis-à-vis the civilian economy than it has been in decades.

A MORE EVEN PLAYING FIELD

While it is possible to pin down 2018 as the precise shift of broad Department of Defense thinking from power projection to great power competition, doing so for the Navy is more complex. The greatest number of policy changes in this direction began taking place under the guidance of CNO John M. Richardson (2015–19), although the Obama administra-

tion had openly discussed the need to shift gears years earlier.¹ By 2015, formal operations as part of the original invasion of Iraq ended, but the fight against the Islamic State (Operation Inherent Resolve) began in 2014 and would continue through 2024. Meanwhile, the U.S. presence in Afghanistan continued through mid-2021, ending abruptly with the U.S. withdrawal at the end of August that year. As long as these types of responsibilities persisted, the bulk of funding increases went to operations and the Navy's focus skewed heavily toward current rather than future problems. Despite this, it was during Richardson's tenure that a number of factors, including procurement failures and global events, combined to enable the Navy to break free of these restraints on its thinking.²

By 2015, it had become clear that the procurement programs of the last two decades—particularly the *Zumwalt*-class guided missile destroyers, CG(X) air defense cruisers, and littoral combat ships—had either failed to deliver what the Navy actually needed or been outright terminated. The advanced *Zumwalt*-class DDGs had their numbers repeatedly slashed due to budgetary problems until only three were procured in the 2010s, and their weapons systems (eventually pinned to a pair of advanced guns) were canceled in favor of more traditional missile armament.³ The CG(X) program, envisioned as the fleet air defense platform of the future, had been scrapped entirely in 2010 to save money (in part because no serious aerial threat to the fleet was foreseen at that time), and its role was expected

1 Earlier discussion of great power competition notably included the Air-Sea Battle concept formally adopted in 2010, although this had a troubled development and was significantly reconfigured as the Joint Concept for Access and Maneuver in the Global Commons (JAM-GC) in 2015. The former's actual influence on contemporary Navy thinking is debatable. Andrew F. Krepinevich, *Why AirSea Battle?* (Center for Strategic and Budgetary Assessments, 2010), vii–viii; Hone and Utz, *History of the Office of the Chief of Naval Operations*, 556; Michael E. Hutchins et al., “Joint Concept for Access and Maneuver in the Global Commons: A New Joint Operational Concept,” *Joint Force Quarterly* 84, no. 1 (2017): 134–39.

2 Peter Swartz et al., *The Origins and Development of a Cooperative Strategy for 21st Century Seapower* (2015) (Center for Naval Analyses, 2017), 1–3.

3 Sam LaGrone, “CNO: Lessons from *Zumwalt*-Class Key to Next Surface Combatant,” USNI News, 25 April 2018, <https://news.usni.org/2018/04/25/cno-lessons-zumwalt-class-key-next-surface-combatant>.

to be taken up by *Arleigh Burke*-class DDGs.⁴ The pair of classes procured under the LCS program proved problematic for a variety of budgetary, propulsion, and structural reasons, and their swappable mission packages were repeatedly delayed, making these vessels essentially deadweight until their weapons were ready.⁵ The fleet that CNO Clark had hoped would excel at power projection ashore in support of the joint force had not materialized and left the service at the same crossroads where it had found itself at the beginning of the twenty-first century, but with significantly fewer ships.⁶

While this situation was far from ideal, it also meant that the Navy was again in a position to redefine its future, and it began doing so under Richardson. The service restarted production of *Arleigh Burke*-class DDGs



The first Flight III *Arleigh Burke*-class guided missile destroyer, *Jack H. Lucas* (DDG-125), completes acceptance trials in May 2023. (Naval Sea Systems Command, 230519-N-N2201-002)

4 Ronald O'Rourke, *Navy DDG-51 and DDG-1000 Destroyer Programs: Background and Issues for Congress* (Congressional Research Service, 2022), i, 3.

5 Ronald O'Rourke, *Navy Frigate FFG(X) Program: Background and Issues for Congress* (Congressional Research Service, 2018), i, 1, 4–5, 7; Ronald O'Rourke, *Navy Littoral Combat Ship (LCS) Program: Background and Issues for Congress* (Congressional Research Service, 2018), i, 1.

6 Megan Eckstein, "CNO Richardson Reflects on Massive Technology Readiness Changes as Tenure Ends," USNI News, 19 August 2019, <https://news.usni.org/2019/08/19/cno-richardson-reflects-on-massive-technology-readiness-changes-as-tenure-ends>.

with the first redesigned Flight III ships procured in FY 2016.⁷ Additionally it initiated a competition for a new frigate to replace the LCSs in FY 2017 that would become the *Constellation* class, with the return to the frigate designation signaling a move back to a blue-water mindset.⁸ Both of these changes represented a shift to a focus on high-intensity combat as China's People's Liberation Army Navy (PLAN) rapidly built up its own capacity around newly designed indigenous aircraft carriers. But even as the Navy initiated a new set of procurement programs, the overall number of hulls continued to fall.⁹

The formal Department of Defense pivot from the GWOT to preparing for high-intensity combat came with the 2018 National Defense Strategy (NDS), which posited that the United States' position had eroded to the point that China and Russia, and to a lesser extent North Korea and Iran, were able more than ever to contest the global order. This reemergence of what the NDS called "long-term strategic competition" directly indicated a need to prepare for a fight with a peer or near-peer competitor.¹⁰ For the Navy, this meant not only shifting a considerable number of its active warships to the Pacific but also dealing directly with concepts at sea that had not been considered since the 1980s or, in the case of air defense, encountered since the end of World War II. While the Cold War Soviet Navy posed a primarily asymmetric challenge with its large number of submarines and land-based air power, not since the Pacific War has the U.S. Navy had to deal with an opposing navy prepared to fight on even terms. The aforementioned Flight III *Arleigh Burkes* and their potential successor in the nascent DDG(X) program, as well as the deepwater

7 Although the initial decision to restart *Arleigh Burke*-class production was taken in 2010, the actual procurement took a number of years.

8 O'Rourke, *Navy Frigate FFG(X) Program*, i, 1, 4–5, 7.

9 Eckstein, "CNO Richardson Reflects."

10 James N. Mattis, *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge* (Office of the Secretary of Defense, 2018), 1.

Constellation-class frigate concept, are a decisive move in this direction for both anti-aircraft and antisubmarine warfare.¹¹

These decisions appear to have been wise in light of the 2022 Russian invasion of Ukraine and the commencement of large-scale Houthi attacks on civilian shipping in the Red Sea in late 2023. The former event (still ongoing at the time of writing) was an unabashed land and influence grab by the Kremlin with the additional aim of destabilizing NATO. It has also served as a stage for all the world to view how technology is reshaping modern warfare, with the overmatched Ukrainians using relatively simple



Carney (DDG-64) fires a missile while patrolling the Red Sea during the Houthi attacks of October 2023. (Defense Visual Information Distribution Service [DVIDS], 231019-N-GF955-1113)

11 It is worth noting that the LCSs have proven to be exceptionally poor antisubmarine platforms in particular, as their survivability largely depends on their high top speed. Mattis, *Summary of the 2018 National Defense Strategy*, 2–3, 6; O’Rourke, *Navy Frigate FFG(X) Program*, i, 1, 4–5, 7; O’Rourke, *Navy DDG-51 and DDG-1000 Destroyer Programs*, i, 3.

drones to contest Russian control of the Black Sea.¹² Meanwhile, in the Red Sea, U.S. warships escorting merchant shipping have encountered frequent and sizable aerial attacks that have heavily tested the last 80 years of air defense developments and crew training.¹³ A new age is clearly upon the Navy, and while new warships are on the way, the service must meet the challenge with the hardware it has. The only changes that can affect current operations quickly are those that influence personnel readiness and capability.

AVF IN CRISIS

While the Navy's battle force was contracting in the 2010s, it faced a similar crisis in the personnel realm. In 2014, as the AVF reached its 40th anniversary, there were doubts about its continued viability from all corners of the DOD. There were a myriad of reasons cited for this apparent crisis, mostly problems similar to those of Zumwalt's time—namely, a lack of family support, poor housing, and inadequate compensation. But the biggest problem continued to be the opportunity cost of service. This only intensified into the 2010s, when U.S. involvement in both Iraq and Afghanistan came to be regarded in a highly negative light by the public.¹⁴

As had been the case in previous decades, the Navy continually attempted to survey and assess the service's perceived shortcomings, so that at least some of the most significant issues could be identified and

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- 12 Heather Mongilio, "A Brief Summary of the Battle of the Black Sea," USNI News, 15 November 2023, <https://news.usni.org/2023/11/15/a-brief-summary-of-the-battle-of-the-black-sea>.
 - 13 John Minor, "The U.S. Navy Must Preserve and Use the Lessons from Red Sea Combat," *Proceedings* 150, no. 12 (2024), <https://www.usni.org/magazines/proceedings/2024/december/us-navy-must-preserve-and-use-lessons-red-sea-combat>; U.S. Naval Institute Staff, "USNI News Timeline: Conflict in the Red Sea," USNI News, updated 4 January 2025, <https://news.usni.org/2024/02/05/usni-news-timeline-conflict-in-the-red-sea>.
 - 14 Alan Chase Cunningham, "Fifty Years Strong: The All-Volunteer Force of the United States Military and Resolving the Recruiting Crisis," *Military Review* (June 2023): 3–7; Bernard D. Rostker, *The Evolution of the All-Volunteer Force* (RAND Corporation, 2006), 2–3; Curtis Gilroy et al., *The All-Volunteer Force and the Need for Sustained Investment in Recruiting* (Center for Naval Analyses, 2020), 7–21; Louis G. Yuengert, "America's All-Volunteer Force: A Success?" *Parameters* 45, no. 4 (2015): 58–62.

addressed.¹⁵ But the service's efforts to better itself were stymied after 2015 by a number of events, some of which were outside the Navy's control. For example, the federal budget has increasingly become a political football, with (at the time of writing) 13 continuing resolutions passed since FY 2015 and over 130 since FY 98. While obviously not as destructive as a complete failure to pass a budget, continuing resolutions have typically frozen funding levels for all federal programs at the level authorized in the last fully approved federal appropriations. Not only is no funding approved for new programs in these bills, but programs either scheduled to be closed down or otherwise completed continue to receive nonnegotiable funds.¹⁶ This has been nothing short of disastrous for the Navy's procurement programs, which have been badly disrupted by this uneven and unpredictable funding. It has also increasingly problematized personnel programs in recent years, which on several counts have also become politicized. In this environment, when money *can* be moved, the tendency has been to seek savings in personnel programs and numbers first, due in part to the growing proportion of the Navy's budget that this category controls.¹⁷

The cost of this approach, which contributed to falling personnel numbers, became publicly apparent with the pair of collisions that took place in 2017. On 17 June of that year, USS *Fitzgerald* (DDG-62) collided with the container ship MV *ACX Crystal* southwest of Tokyo, killing 7 sailors. Then, on 21 August, USS *John S. McCain* (DDG-56) collided with the tanker *Alnic MC* east of the Strait of Malacca, killing 10 sailors. While a lack of tactile controls for the ship in lieu of touchscreens was partially blamed, crew fatigue and inadequate training were also seriously

15 What programs were actually working as intended and which might be an active hindrance to retention were a particular focus during this period. One such example is Lauren Malone et al., *The Relationship Between Colocation and Reenlistment in the Navy*, vol. 1 (Center for Naval Analyses, 2018).

16 Sam LaGrone, "New Continuing Resolution Puts Shipbuilding Programs at Risk, SECDEF Austin Warns," USNI News, 9 September 2024, <https://news.usni.org/2024/09/09/new-continuing-resolution-puts-shipbuilding-programs-at-risk-secdef-austin-warns>.

17 Steve Deal, "Steve Deal Interview," 1, interview by Scott Hamm, 20 August 2024, transcript, U.S. Naval Community College, Quantico, VA.

implicated in both cases.¹⁸ As the Navy was ramping up its presence in the Pacific during this period in response to the heightened challenge posed by the PLAN, these events were a major warning sign that its personnel were badly overstretched in this effort. Better training and clearer ship controls were a partial fix, but increasing manning levels in Seventh Fleet, dangerously low at the time, was the ideal solution. This was exceptionally difficult to achieve without cutting numbers elsewhere (like limiting those officers and enlisted sailors being sent ashore for education), and recruiting difficulties meant that even a congressionally authorized increase in total personnel might not produce actual results.¹⁹

The COVID-19 pandemic threatened to make personnel shortages worse, although surprisingly, retention appears to have held steady in 2020 and 2021.²⁰ Nevertheless, the close quarters of berthing aboard ship were far from ideal for preventing or containing the spread of any virus, and stories of this problem, particularly the very public case of USS *Theodore Roosevelt* (CVN-71) in March 2020, proved to be major public relations and readiness issues for the service.²¹ But while the virus itself was a crisis on a scale not seen in a century, these sorts of readiness challenges are the kind that the Navy must be prepared to deal with in order to remain a successful volunteer force.

The bottom line for the Navy was that it needed to become a more competitive career option amid the still-rising desirability of a college education immediately following high school. While VOLED had proven

18 Chief of Naval Operations, *Memorandum for Distribution [Report on the Collision between USS Fitzgerald (DDG-62) and Motor Vessel ACX Crystal and between USS John S. McCain (DDG-56) and Motor Vessel Alnic MC]* (Office of the Chief of Naval Operations, 2017), 20–22; Sam LaGrone, “USS *Fitzgerald*, USS *John McCain* ‘Avoidable’ Collisions due to Lapses in Basic Seamanship,” USNI News, updated 1 November 2017, <https://news.usni.org/2017/11/01/investigation-uss-fitzgerald-uss-john-mccain-avoidable-collisions-due-lapses-basic-seamanship>.

19 Chief of Naval Operations, *Memorandum for Distribution*, 20–22.

20 Avery Calkins and Beth J. Asch, *What Happened to Military Recruiting and Retention of Enlisted Personnel in 2020 During the COVID-19 Pandemic?* (RAND Corporation, 2022), 1, 14–17.

21 This incident lead directly to the resignation of Acting Secretary of the Navy Thomas Modly. Sam LaGrone, “Timeline: *Theodore Roosevelt* COVID-19 Outbreak Investigation,” USNI News, updated 23 June 2020, <https://news.usni.org/2020/06/23/timeline-theodore-roosevelt-covid-19-outbreak-investigation>.

to be a fairly successful incentive for enlistment and underwent further streamlining in 2011, it was becoming increasingly apparent by 2018 that additional changes were necessary to ensure the Navy's readiness for great power competition. Yet the way these changes would come about would not be from a direct effort toward enlisted education but rather an examination that began from a completely different perspective.

EDUCATION FOR SEAPOWER

A number of different factors jump-started Navy thinking on general education in the 2010s, but the separate and siloed state of advanced officer education at the United States Naval Academy, Naval War College, Naval Postgraduate School, and Marine Corps University, in addition to the transition from the global war on terrorism to a focus on high-intensity combat with a peer competitor, were chiefly responsible for the serious reexamination that began in 2018. Inspired by the aforementioned 2018 National Defense Strategy and originating with Secretary of Defense James Mattis, some officers in the Navy, in particular, came to believe that in all likelihood, PME offered by the Navy's higher-learning institutions was inadequate and that these schools were not leveraging advanced technology or technological literacy effectively.²² This charge was taken up by the Office of the Secretary of the Navy, and under the authority of Under Secretary Thomas Modly, a group including both academics and retired, senior, and mid-level Navy and Marine Corps officers was tasked in April 2018 with reviewing the state of naval education.²³

Navy program studies are fairly commonplace, but most do not result in meaningful or lasting change. For those involved in the *Education for Seapower* study, avoiding this outcome was imperative. The group, which was led by an executive board under Secretary Modly and consisted of Admiral William F. Moran, USN; General Gary L. Thomas, USMC;

22 Daniel Goff, "Daniel Goff Interview," 5, interview by Scott Hamm, 16 August 2024, transcript, U.S. Naval Community College, Quantico, VA; Robert Kozloski, "Bob Kozloski Interview," 4, interview by Scott Hamm, 13 August 2024, transcript, U.S. Naval Community College, Quantico, VA.

23 Deal, "Steve Deal Interview," 1-3; Goff, "Daniel Goff Interview," 1-2; Kozloski, "Bob Kozloski Interview," 1; Thomas B. Modly et al., *Department of the Navy Education for Seapower Final Report* (Department of the Navy, 2018), 2-3, 5.

General Glenn M. Walters, USMC (Retired); Admiral Michael G. Mullen, USN (Retired); General John R. Allen, USMC (Retired); Ambassador Barbara M. Barrett; Vice Admiral Anne E. Rondeau, USN (Retired); and Dr. Harlan K. Ullman, concluded that the best way to achieve meaningful change was not to interfere directly in the officer schools.²⁴ Each of these had its own origin, mission, resource pipeline, and culture that would obstruct easy paths to change. Instead, as its primary recommendation, the board proposed to unify these institutions under a Naval University System that might better adjudicate how well these schools met their individual missions. This higher system could suggest changes if shortcomings were detected. In creating a new organizational umbrella, rather than attempting to impose organizational change within several preexisting bureaucracies, it was hoped that the trajectory of naval education could be altered quickly to better align with a technologically sophisticated, multipolar operating environment.²⁵

In the process of crafting this proposal, the E4S research group, via members Bob Kozloski, Dan Goff, and Steve Deal, came to the realization that their entire framework for enhancing the capacity of the Navy's personnel to fight in a high-technology, high-intensity environment was overlooking the 85 percent of the service who would actually be operating this technology: the enlisted. In order to prepare the Navy for this type of modern combat, and in recognition of the devolved state of decision-making in modern warships at sea, the enlisted had to be considered a major player in the study. It was by this logic that the E4S research program, initiated chiefly as a review of officer education, came to recommend in its final report the creation of the U.S. Naval Community College in late 2018.²⁶

While the USNCC was not the only major recommendation of the final E4S report—it was headlined by the Naval University System proposal, a chief learning officer (CLO) for the Navy at the Pentagon, and a program executive office to handle the leveraging of technology—the college was

24 Modly et al., *Education for Seapower Final Report*, 1–3, 5–6.

25 Deal, “Steve Deal Interview,” 4–5, 7–8; Goff, “Daniel Goff Interview,” 5–6; Kozloski, “Bob Kozloski Interview,” 2, 4; Modly et al., *Education for Seapower Final Report*, 6–8.

26 Deal, “Steve Deal Interview,” 7–8, 10–12; Goff, “Daniel Goff Interview,” 4–5; Kozloski, “Bob Kozloski Interview,” 5; Modly et al., *Education for Seapower Final Report*, 7.

what quickly gained the most traction. The executive board's recommendation was for this organization to "facilitate education and certifications for enlisted sailors and marines that are relevant to the Naval Services. Using a universal transcript system, this organization will design a rigorous associate of science and/or arts degree program for Naval Sciences with concentration areas such as artificial intelligence, data analytics, organizational behavior, and information systems, while maximizing credit for existing educational and training programs."²⁷ This was, in short, an effort to leverage the existing drive for education embraced by VOLED for the purposes of PME, providing a path to a two-year degree immediately relevant to the job of any given sailor or marine, thereby enhancing the effectiveness of the Navy and, hopefully, in a single stroke, drastically improving the value added to effectiveness and retention from VOLED itself. This would, by the E4S final report's governance and policy recommendations, permit the Navy to establish standard educational expectations for the ranks from E-1 to O-10 (including a renewed push for improved PME) and better leverage the existing civilian university system's resources already involved in VOLED.²⁸

These recommendations were accepted by Secretary of the Navy Richard V. Spencer in early 2019, and a declaration of intent to build the Naval University System and USNCC, create the CLO, and establish a strategy for and universal approach to naval education was issued. All reorganizations of this magnitude take time, and frequent changes in the Office of the Secretary of the Navy risked undermining this effort. Fortunately, the promised *Education for Seapower Strategy* was issued under the authority of then-Acting Secretary of the Navy Thomas Modly in 2020, which rearranged priorities to make the establishment of USNCC the primary objective of the initial reforms stemming from E4S. The college

27 Modly et al., *Education for Seapower Final Report*, 7.

28 Modly et al., *Education for Seapower Final Report*, 6–8.

was formally created in May of that year, and the organization offered its first two courses the following January.²⁹

As currently structured, USNCC provides a five-course Naval Studies Certificate as the general education component of its program, which counts as one-quarter of the credits required for an associate's degree. This focus on a military subject does not mean that USNCC can be characterized cleanly as a PME program, but rather an augment to it; the course material is geared more toward the application of critical or abstract (rather than strictly practical) thinking to the everyday work of the individual sailor. Coursework is delivered online and can be combined with credits previously earned elsewhere, such as through the separate VOLED program. USNCC also offers full associate degree or certificate programs in STEM (science, technology, engineering, and mathematics), leadership and social sciences, and operations in conjunction with partner civilian institutions, all of which are pertinent to Navy or Marine Corps ratings. The organization is, ultimately, dedicated to navalizing general education.³⁰

As of 2024, USNCC had approximately 4,000 students, despite formally coming into existence only three years earlier. As the college pursues accreditation in order to achieve full degree-granting authority, it plans to expand to 15,000 students by FY 2026.³¹ Scaling up rapidly to this degree ultimately not only raises the average education level of the fleet, but additionally looks to improve the viability of the AVF by making additional education not just a perk of service (as with VOLED), but more of an expectation of enlisted sailors—something that was not possible with any program

29 Goff, "Daniel Goff Interview," 6; Kozloski, "Bob Kozloski Interview," 4–5; Thomas B. Modly, *Education for Seapower Strategy* (Office of the Secretary of the Navy, 2020); Thomas B. Modly, *Memorandum for Distribution: Education for Seapower Decisions and Immediate Actions* (Office of the Secretary of the Navy, 2018), 6; "USNCC History," U.S. Naval Community College, accessed 7 January 2025, <https://www.usncc.edu/s/about/history>.

30 "About USNCC," U.S. Naval Community College, accessed 7 January 2025, <https://www.usncc.edu/s/about>; "Academic Program Design," U.S. Naval Community College, accessed 7 January 2025, <https://www.usncc.edu/s/academics/academic-program-design>; "Available Programs," U.S. Naval Community College, accessed 7 January 2025, <https://www.usncc.edu/s/academics/available-programs>; "Consortium," U.S. Naval Community College, accessed 7 January 2025, <https://www.usncc.edu/s/about/consortium>; "USNCC History,"

31 Goff, "Daniel Goff Interview," 6; "USNCC History."

prior to E4S.³² While only time will tell how this fundamental shift changes the character of the enlisted, an educational program such as this, aimed specifically at combat effectiveness, holds the potential for the establishment of educational requirements for all ratings, a first in the Navy's history.

CONCLUSION

The transition of the Navy's attention from GWOT to great power conflict is still in progress, but there have been signs, like E4S and SEA's recent resurgence, of how fundamental a change this represents.³³ As the Navy confronts challenges that it has not seen since the end of World War II, old concepts have to be reevaluated for modern scenarios, and the effects of 80 years of technological change on decision-making and warship operation at sea must be understood in this context. Over the past decade, the service has come to recognize that general education of the enlisted, long regarded as a luxury or a recruitment incentive, has instead become critical to combat effectiveness. The USNCC and other effects of the E4S study are a direct response to this realization, and they promise to have a significant impact on the Navy's future as a fighting force, both operationally and culturally.

32 Kozloski, "Bob Kozloski Interview," 3–5; Modly, *Education for Seapower Strategy*, 1, 6.

33 For example, the fact that SEA is now a promotion requirement is a seismic change in itself. Cheeseman, "United States Navy Senior Enlisted Academy Update."

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CONCLUSION

The Navy's enlisted personnel have changed considerably since World War II pushed the service away from being a purely volunteer force; enlisted policy has been similarly transformed. The run-up to that conflict saw the establishment of an enlisted training pipeline that has remained largely the same ever since, including initial boot camp training that segues into class "A" and other technical-skill schools lasting up to several months in length. But beyond this initial training, the Navy was slow to adopt any sort of later-career professional military training, and even slower to see more general education as anything but a luxury. This held true from 1945 through the late stages of the Cold War.

But even while the Bureau of Naval Personnel held this general position, smaller sections of the Navy began bending this rule in the name of keeping up with technological sophistication. In 1957, Admiral Hyman G. Rickover implemented advanced math and physics courses for enlisted personnel who were training for nuclear propulsion. While BuPers employed similar associate's degree-level courses for petty officers on a small scale a decade later, that organization believed that a college education required an individual to be an officer, not an enlisted sailor. BuPers therefore used pilot courses in the late 1960s primarily as commissioning pipelines for mustangs, rather than for sailor improvement. Naval Reactors and BuPers held these opposing viewpoints until the end of the draft in 1973.

In the same way that forcing selective service on the Navy in late 1942 compelled a dramatic change in the character of those who served, the end of the draft in 1973 caused another paradigm shift. Having lost its source of shadow conscripts, and needing to make national service an enticing option in a world in which the United States had just ended its participation in a highly unpopular military conflict, the Navy imple-

mented a voluntary education program in 1974 consisting primarily of generous tuition assistance and the Navy Campus for Achievement to guide sailors through the use of civilian institutions for off-duty learning. VOLED soon became a highly popular incentive for enlistment; however, it appears to have simultaneously become a disincentive for reenlistment—a shortcoming that the service had little choice but to accept. By the end of the Cold War, the Navy had effectively committed itself to this course with the full knowledge that its best recruits would take advantage of the benefits offered them and likely separate at the earliest opportunity. The service's acceptance of high rates of early separation also disrupted attempts at formalizing advanced enlisted PME, with the Senior Enlisted Academy largely relegated to the back burner into the twenty-first century.

The Navy's acceptance of this recruiting paradigm, while seemingly counterintuitive, was a necessary evil to acquire badly needed high-aptitude personnel. Increasing technological sophistication throughout the post-World War II period has devolved decision-making at sea upon increasingly junior officers and enlisted sailors, and additionally increased the requirements for understanding and operating warships. This elevated educational bar for the average sailor went largely unrecognized in the public eye until after the Cold War ended, but became highly apparent post-2001 when a critically small Navy began to creak under the operational burden it carried. The Office of the Secretary of Defense, BuPers, and numerous think tanks realized at that point that the opportunity cost of service had dramatically increased with the general public's growing expectation that college naturally followed high school. Accordingly, the number of high-aptitude high school seniors willing to enlist dramatically decreased between the late 1980s and 2001 due to the perception that a college education was needed for success in the civilian economy. Serving in the Navy, while it presented *some* opportunity for voluntary education, nevertheless appeared less promising in the realm of post-service employment. This conflict of interest made VOLED increasingly important for recruitment, but also led to many separations after one enlistment.

Only with the creation of the *Education for Seapower Strategy* and the USNCC between 2018 and 2020 has the Navy seized upon a two-year degree system as critical for operational effectiveness first and recruitment and

retention second. A revised approach to education has gone hand in hand with a renewed commitment to PME intended to help prepare the service for high-intensity combat with a peer competitor. This focus on education and PME is a major paradigm shift and holds out numerous additional possibilities, such as tying education to ratings and advancement. It also makes enlistment a more competitive career choice, as sailors can now obtain a college education and earn a paycheck while doing so (rather than taking on a potential mountain of student debt like civilian college attendees). It is too early to know for certain what effect this approach to education will have on the Navy and its culture in the long term, but the need for it is unlikely to disappear as the technological challenge posed by operating a modern warship in combat continues to escalate.



The CIC of *O'Kane* (DDG-77) while on patrol in the Red Sea in 2021. (DVIDS, 210919-N-MR124-1003)

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None of the above would have been possible without the labors of many individuals over the last 80 years to collect data on the effectiveness and possibilities of Navy personnel programs. The numerous studies that form the backbone of this book represent a monumental effort to understand the needs and motivations of enlisted sailors and frequently offered seemingly contradictory findings. But by pulling many of these documents together, broader patterns emerge that show both the contours of where the Navy has been and offer clues as to where we are headed.

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